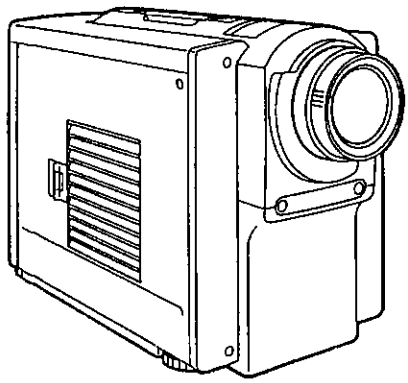
SHARP SERVICE MANUAL
SERVICE-ANLEITUNG

S72D8XG3200S/



NTSC SYSTEM
LCD PROJECTOR
LCD PROJEKTOR

MODEL XG-3200S
MODELL XG-3200S

In the interrests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used

Im Interesse der Benutzer-Sicherheit (in einigen Länder durch Sicherheitzvorschriften gefordert) sollte dieses Gerät wieder auf seinen ursprünglichen Zustand eingestellt und nur die vorgeschriebenen Teile verwendet werden.

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INHALT

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SHARP CORPORATION

SPECIFICATIONS

Name:	LCD Projector
Model:	XG-3200S
Color System:	NTSC system
Projection Image Size (Diagonal):	40 inch (102 cm) at a distance of approx. × (1.6 m) 150 inch (381 cm) at a distance of approx. × (5.6 m)
LCD Panels:	2.8" (4.28(H) × 5.75(W) cm) Twin-TFT Active Matrix Panels × 3
No. of Pixels:	3 panels, each containing 217,945 pixels (653,835 pixels total)
Lens:	Zoom Lens, F4.5, f105—210 mm
Contrast Ratio:	100:1
Signal Input:	(1) S-VIDEO (2) Composite Video (BNC Type) (3) RGB Analog (15D-SUB Type)
Horizontal Resolution:	More than 400 lines
Operating Temperature:	5°C ~ 40°C (37°F ~ 104°F)
Storage Temperature:	– 20°C ~ 60°C (– 4°F ~ 140°F)
Power Source:	AC 220V~240V
Power Consumption:	230W
Dimensions (W × D × H):	9" × 17 5/16" × 12 5/16" (229 mm × 439 mm × 312 mm)
Weight:	32.4 lbs. (13.7 kg)
Accessories:	Lens Cover ..... 1pc. (installed) Air Filter ..... 2pcs (one already installed) BNC Connector ..... 2pcs Remote Control Unit ..... 1 pc. Dry Battery (Type AA or UM/SUM-3) . 3pcs

Specifications are subject to change without notice.

TECHNISCHE DATEN

Name:	LCD Projektor
Modell:	XG-3200S
Color System:	NTSC system
Projektionsbildgröße (diagonal):	40" (102 cm) bei einem Projektionsabstand von ca. (1,6 m) 150" (381 cm) bei einem Projektionsabstand von ca. (5,6 m)
LCD-Projektionsplatten:	2,8" (4,28(H) × 5,75(B) cm) Twin-TFT Aktivmatrixplatten × 3
Anzahl der Punkte:	3 platten mit je 217.945 pixeln (653.835 pixels total)
Objektiv:	Zoomobjectiv, F4,5; f = 105—210 mm
Kontrastverhältnis:	100:1
Signal Input:	(1) S-VIDEO (2) Composite Video (BNC Type) (3) RGB Analog (15D-SUB Type)
Horizontale Auflösung:	Mehr als 400 Zeilen
Betriebstemperatur:	5°C ~ 40°C (37°F ~ 104°F)
Lagertemperatur:	– 20°C ~ 60°C (– 4°F ~ 140°F)
Stromversorgung:	Wechselstrom 220V~240V
Nennaufnahme:	230W
Abmessungen (B × H × T):	9" × 17 5/16" × 12 5/16" (229 mm × 439 mm × 312 mm)
Gewicht:	32,4 lbs. (13,7 kg)
Zubehör:	Objectivkappe ..... 1Stück (eingebaut) Luftfilter ..... 2Stück (eingebaut) BNC-Verbinder ..... 2Stück Fernbedienung ..... 1 Stück Batterie: AA bzw. UM/SUM-3 ..... 3 Stück

Specifications are subject to change without notice.

NOTE TO SERVICE PERSONNEL

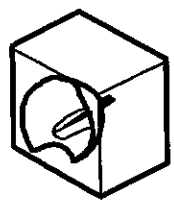
UV-RADIATION PRECAUTION

The light source, metal halide lamp, in the LCD projector emits small amounts of UV-Radiation.

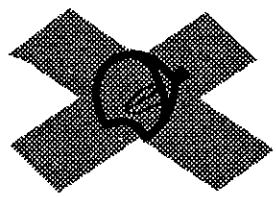
AVOID DIRECT EYE AND SKIN EXPOSURE.

To ensure safety please adhere to the following:

1. Be sure to wear sun-glasses when servicing the projector with the lamp turned "on" and the top enclosure removed.



2. Do not operate the lamp outside of the lamp housing.



3. Do not operate for more than 2 hours with the enclosure removed.

UV-Radiation and Medium Pressure Lamp Precautions

1. Be sure to disconnect the AC plug when replacing the lamp.
2. Allow one hour for the unit to cool down before servicing.
3. Replace only with same type lamp. Type **MSFR150S9** rated 80V/150W.
4. The lamp emits small amounts of UV-Radiation, avoid direct-eye contact.
5. The medium pressure lamp involves a risk of explosion. Be sure to follow installation instructions described below and handle the lamp with care.

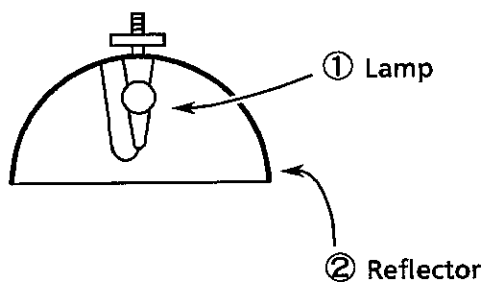
■ Lamp Replacement

Note:

Since the lamp reaches a very high temperature during units operation replacement of the lamp should be done at least one hour after the power has been turned off. (to allow the lamp to cool off.)

Installing the new lamp, make sure not to touch the lamp (bulb) replace the lamp by holding its reflector ②.

[Replace with same type lamp.]



DANGER ! — Never turn the power on without the lamp to avoid electric-shock or damage of the devices since the stabilizer generates high voltages at its start.

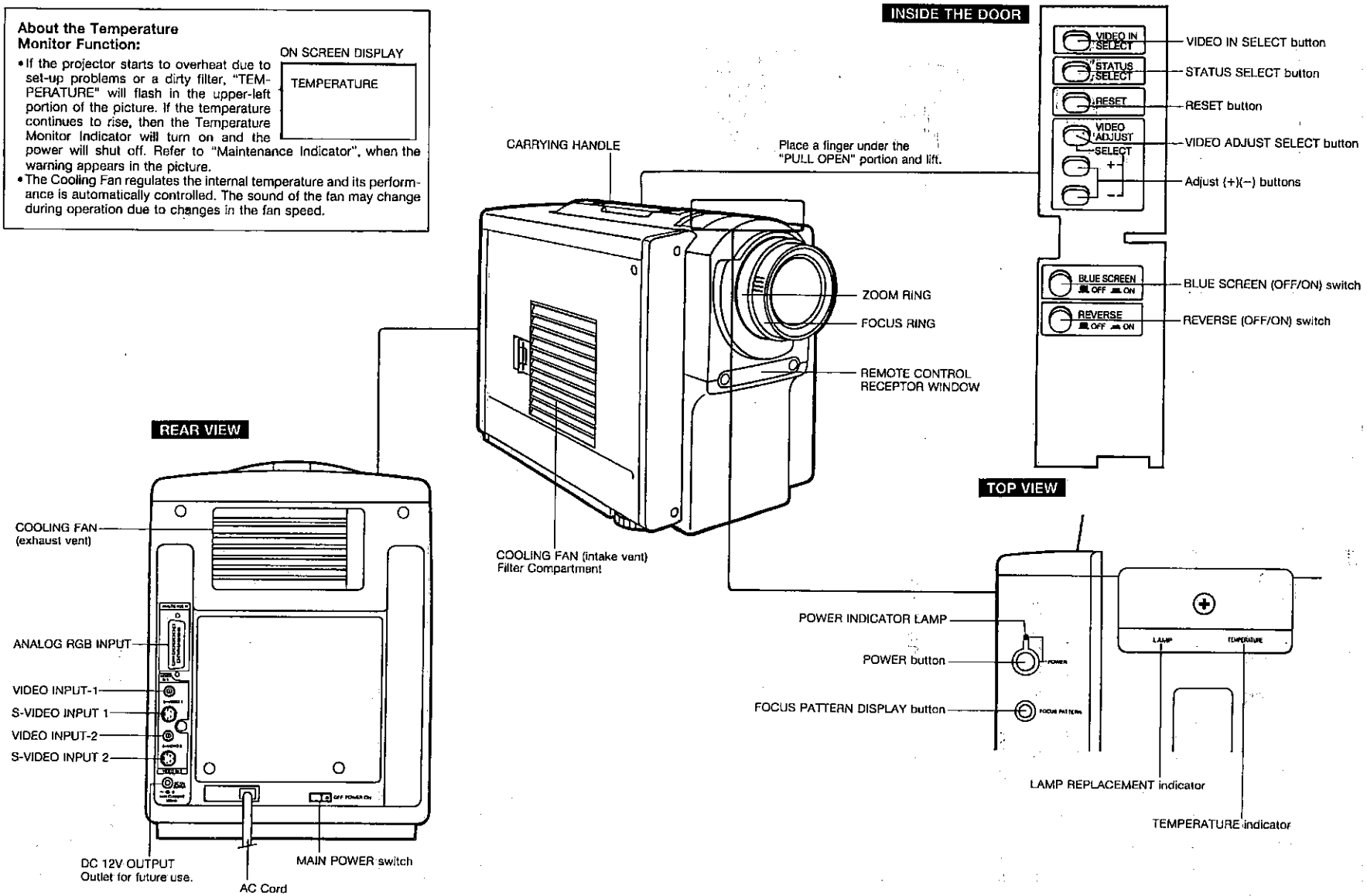
Location of Controls

About the Temperature Monitor Function:

- If the projector starts to overheat due to set-up problems or a dirty filter, "TEMPERATURE" will flash in the upper-left portion of the picture. If the temperature continues to rise, then the Temperature Monitor Indicator will turn on and the power will shut off. Refer to "Maintenance Indicator", when the warning appears in the picture.
- The Cooling Fan regulates the internal temperature and its performance is automatically controlled. The sound of the fan may change during operation due to changes in the fan speed.

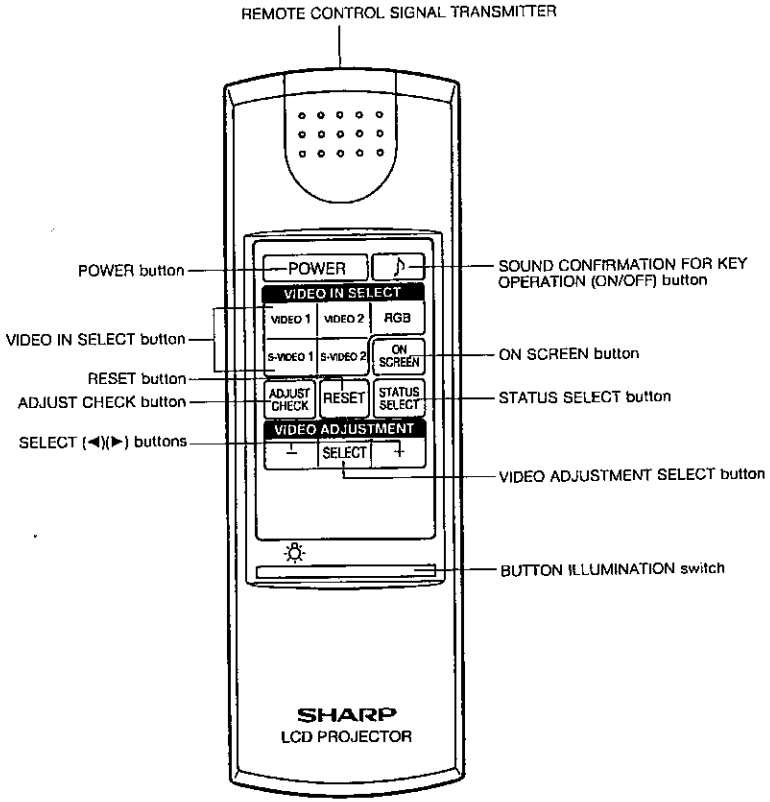
ON SCREEN DISPLAY

TEMPERATURE



Location of Controls

REMOTE CONTROL



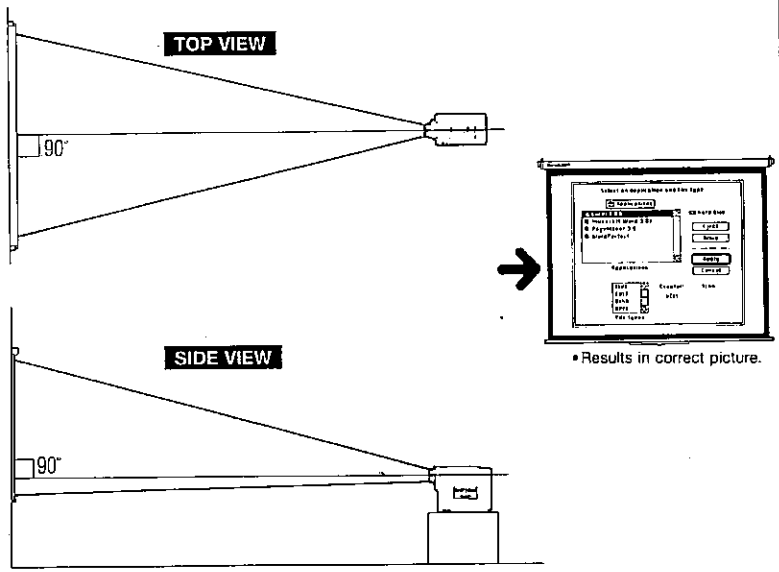
Setting Up the Projector

How to set up the projector and screen

Caution: When you set up the projector
- Do not place it in humid or dusty places, or places where the air is sooty or full of cigarette smoke. If the lens, mirror, or other optical components become dirty, the picture will blur or darken, making viewing difficult.
- Do not expose to extremes of heat or cold.
  Operating temperature: 5°C – 40°C
  Storage temperature: –20°C – 55°C

Example of a standard setup

- Position the screen so that it is not in direct sunlight or room light. Light falling directly onto the screen washes out colors, making viewing difficult. Close the curtains and dim the lights when using the screen in a bright or sunny room.
- The best picture will be obtained when the projector is at a 90 degree angle to the screen. Position the projector and screen as shown.



• Results in correct picture.

If the projector and screen settings are incorrect, the picture will be distorted, making viewing difficult.

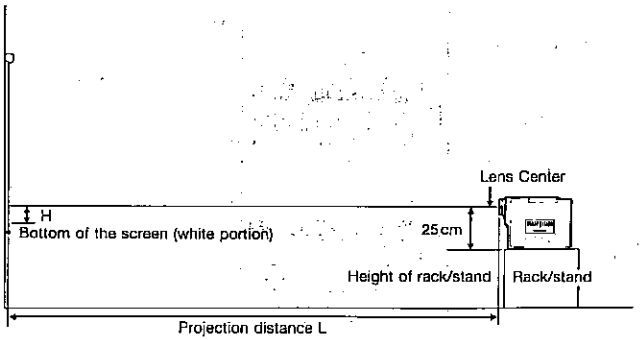
Setting Up the Projector

■ The projector is equipped with a 2× zoom lens, which lets you increase an image to double the minimum size at a given distance.
(Example: At a projection distance of 3.8 m, 100 inch (254 cm) picture size at maximum magnification can be reduced to a 50 inch (127 cm) size at minimum magnification by using the zoom lens.)

■ The picture can be focused when the projector is within 1.6 m to 7.4 m of the screen. Please set up the projector within this range.

Picture size (diagonal)	Projection distance L		Height from bottom of screen to lens center H
	Minimum projection distance	Maximum projection distance	
150 inch (381 cm)	5.6 m	7.4 m	47 cm
100 inch (254 cm)	3.8 m	7.4 m	31 cm
80 inch (203 cm)	3.1 m	6.2 m	25 cm
60 inch (152 cm)	2.3 m	4.7 m	19 cm
40 inch (102 cm)	1.6 m	3.2 m	12 cm

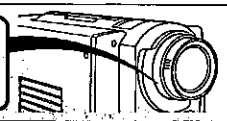
- If the corners of the picture are distorted at the minimum projection distance, try moving the projector back slightly.
- Maximum distance from the screen at which the picture can be focused is 7.4 m. Accordingly, 150 inch (381 cm) or 100 inch (254 cm) picture size cannot be projected at lowest magnification.



■ After deciding the projector's position, adjust the picture size and focus as shown.

1 Adjusting the picture size

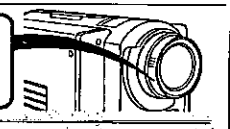
Adjust the picture size by rotating the Zoom Ring.



■ Even when it is not possible to obtain the correct projection distance for the desired picture size due to the size of the set-up area, you can still adjust the picture to any size within the magnification range of the Zoom Lens.

2 Adjusting the focus

Adjust the focus by rotating the Focus Ring.

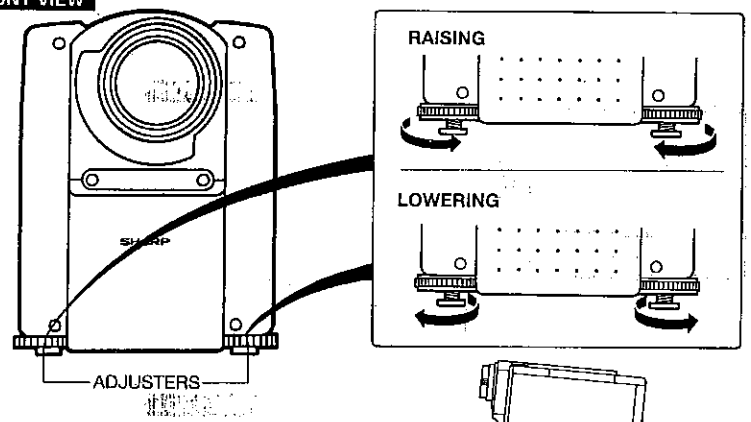


■ Adjust the focus so that the picture on the screen is as clear as possible.
■ For more accurate focusing, utilize the focus pattern. (See page 24)

Leveling and Height Adjustments

■ If the screen is mounted higher than the projector, use the ADJUSTERS on the bottom of the projector to adjust the vertical angle of the projector, as shown.

FRONT VIEW



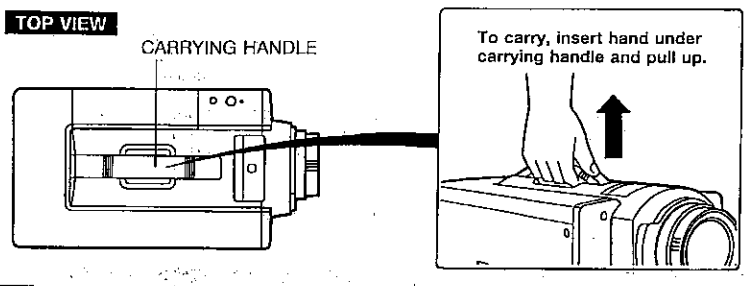
Note:
When the angle of the projector is moved upward using the ADJUSTERS, the picture will be slightly distorted due to the angle between the projector and the screen.

Range of adjustment is approx. 5 degrees.

When moving the projector

■ Use the Carrying Handle when moving the projector.

TOP VIEW



Note:
When moving the projector, cover the lens with the lens cap for protection.

Connecting the Projector

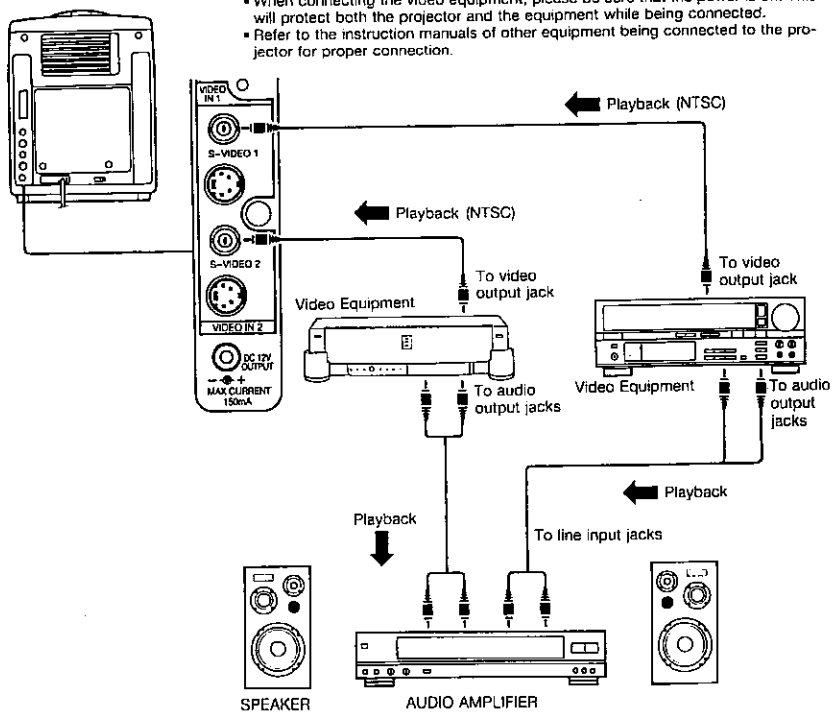
SYSTEM 1

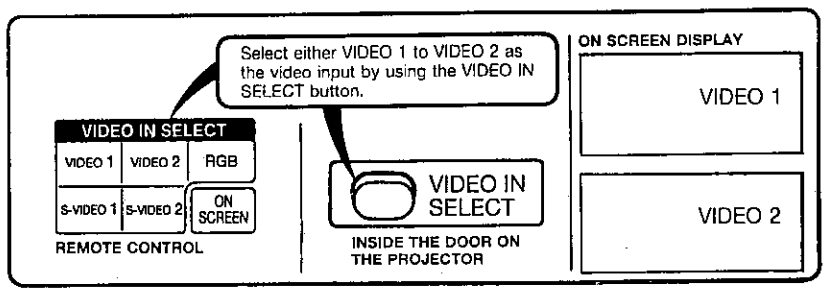
To connect the projector to video (NTSC) and audio equipment for viewing played-back images. (With an audio amplifier connection.)

REAR TERMINALS

Notes:

- When connecting the video equipment, please be sure that the power is off. This will protect both the projector and the equipment while being connected.
- Refer to the instruction manuals of other equipment being connected to the projector for proper connection.

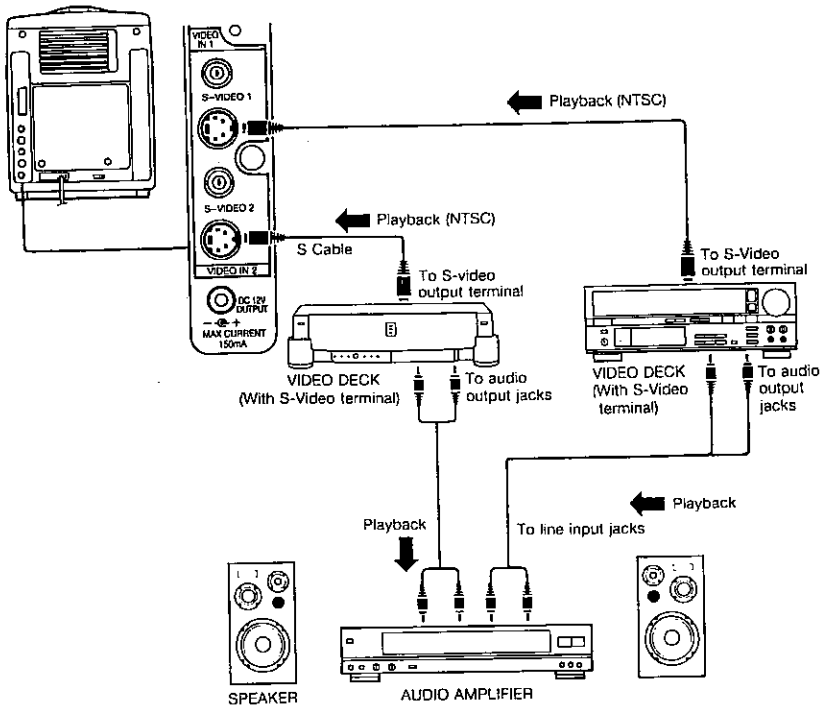


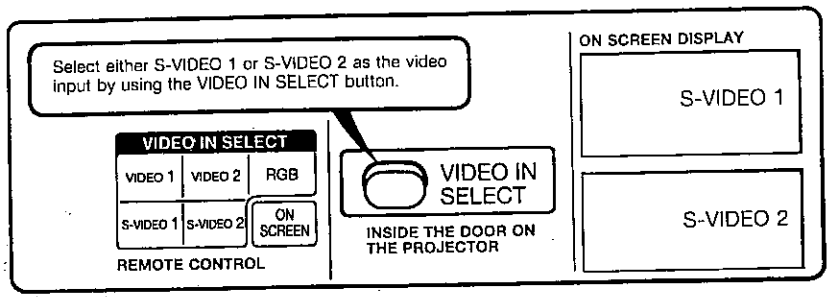


SYSTEM 2

To connect the projector to video (NTSC) and audio equipment using the S-video terminals, for viewing played-back images. (With an audio amplifier connection.)

REAR TERMINALS





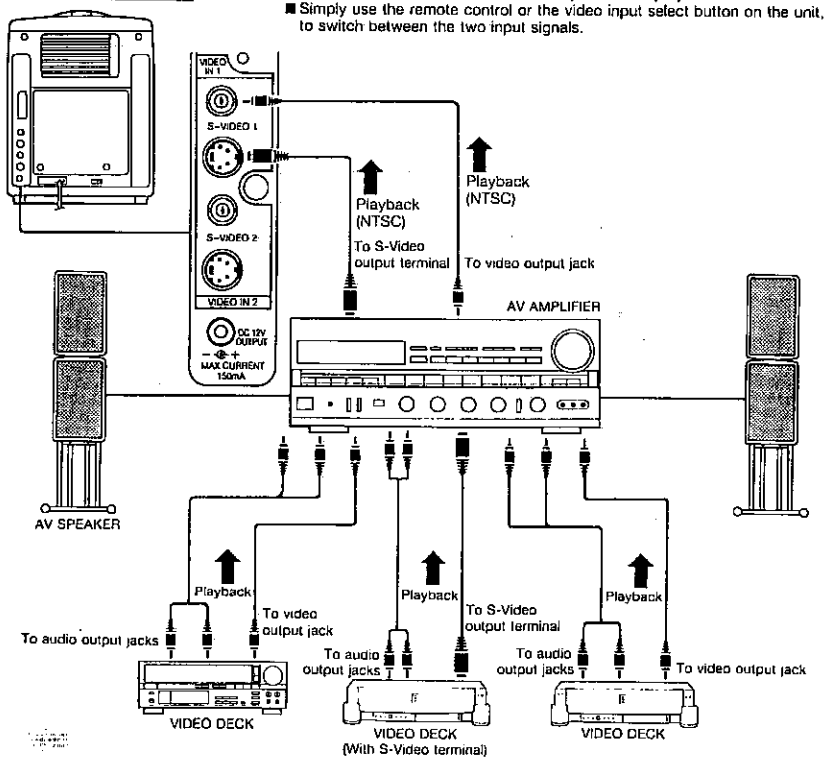
Connecting the Projector

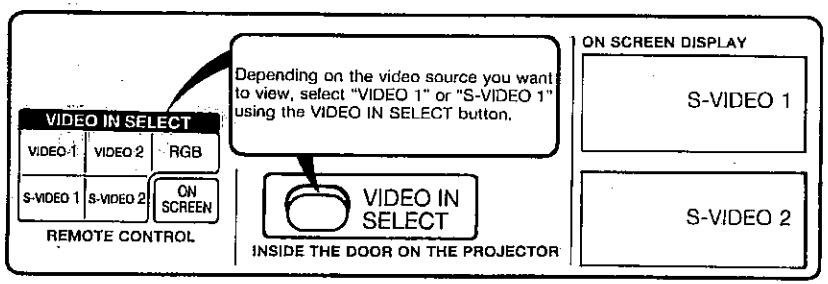
SYSTEM 3

To connect the projector to video (NTSC) and audio equipment for viewing played-back images. (With an AV amplifier connection.)

- When connecting equipment with an S-video output, such as an S-VHS VCR, and one or more video decks to an AV amplifier, connect both the S-VIDEO -1 terminal and the VIDEO-1 jack on the projector.
- Simply use the remote control or the video input select button on the unit, to switch between the two input signals.

REAR TERMINALS

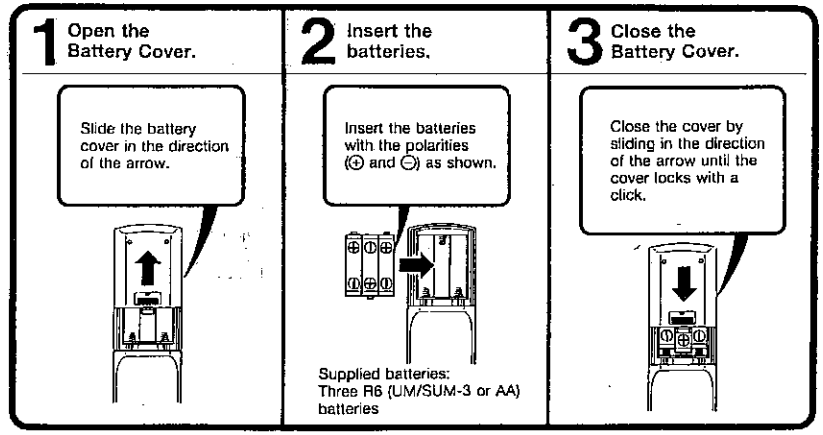




Using the Remote Control

Inserting the Batteries

Before using the remote, insert the batteries supplied with the accessories.


1 Open the Battery Cover.
Slide the battery cover in the direction of the arrow.
2 Insert the batteries.
Insert the batteries with the polarities (⊕ and ⊖) as shown.
Supplied batteries: Three R6 (UM/SUM-3 or AA) batteries
3 Close the Battery Cover.
Close the cover by sliding in the direction of the arrow until the cover locks with a click.

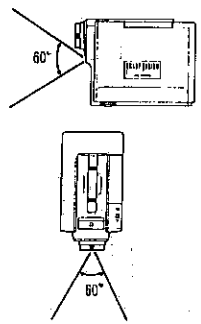
NOTE ON BATTERIES

Incorrect use of batteries may cause them to leak or burst.

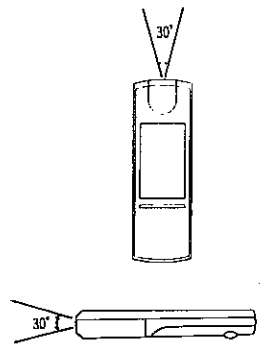
- Insert the batteries with the their polarities (⊕ and ⊖) orientated correctly as indicated.
- Remove the batteries if the remote control will not be operated for an extended period of time. Maintain the batteries in clean condition.
- Don't mix battery brands in use.
- Do not mix old and new batteries. The life expectancy of the new batteries will be shortened and the old batteries may leak.
- When batteries have been used up, remove them to prevent leakage. Leaked battery fluid may irritate the skin; use a cloth to wipe away.
- Due to storage conditions and the shelf life of the supplied batteries, they may run out in a short time. Replace them with new batteries as soon as possible.

Using the Remote Control ■ Refer to the diagrams below before using the Remote Control.

SIGNAL RECEPTION RANGE



SIGNAL TRANSMISSION RANGE

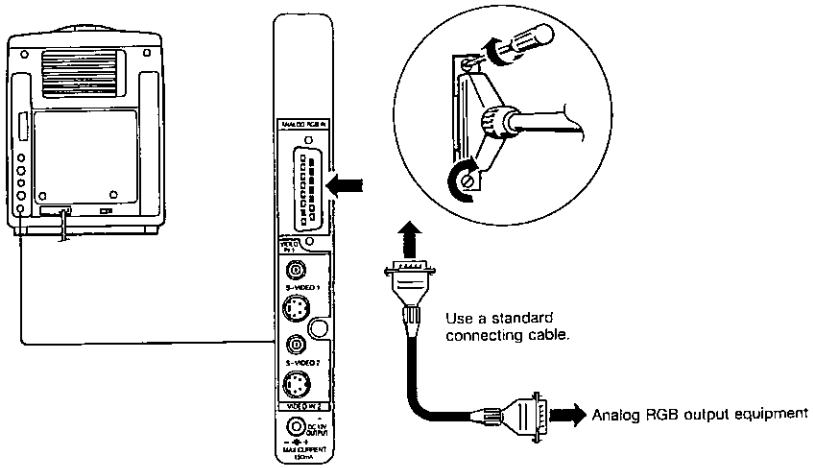


Connecting the Projector (RGB Video)

ATTENTION:
- This is an analog RGB input (15.75kHz composite sync). Do not connect a digital RGB signal to this input. Use a TTL-to-analog converter if using a digital RGB output such as a CGA computer.
- This is not a multi-sync device. The projector will only work with an NTSC composite sync output of 15.75kHz.
- Refer to the technical specs on the next page before connecting any equipment to the projector.
- Refer to the 15-pin connector description below before connecting any computer or RGB output device.
- The analog RGB input requires a 15.75kHz composite sync (negative polarity) signal. A scan converter or RGB-to-video interface may be required in order to use the projector with scan rate signals other than 15.75kHz. (ie, VGA and Macintosh II computers' graphics cards)
- Signals input to the analog RGB input will be compressed to an image of 320 dots by 200 lines.
- For interface adaptors and cables, contact your local authorized SHARP dealer.

REAR VIEW

REAR CONNECTOR

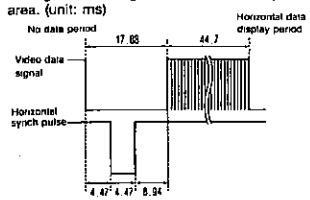


RGB Input signal

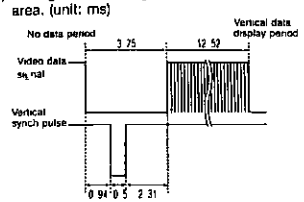
Video signal	Separate RGB type	0 – 0.7Vp-p	Positive polarity
Composite synch signal		TTL levels	Negative polarity

Timing Chart of Video Signal (Typical Examples)

a) Timing of video signal and horizontal synch pulse area. (unit: ms)

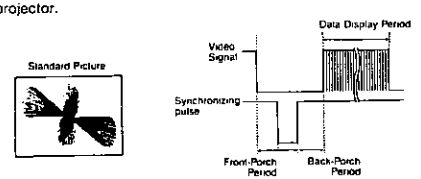


b) Timing of video signal and vertical synch pulse area. (unit: ms)



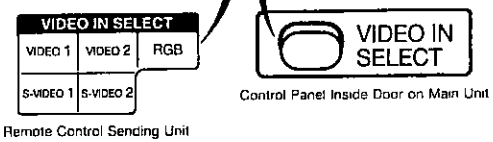
NOTE ABOUT ANALOG RGB INPUT SIGNALS

If signals other than those recommended are input, the image may be distorted as shown in the table to the right due to signal timing skew etc.. This is not due to any problem with the projector.

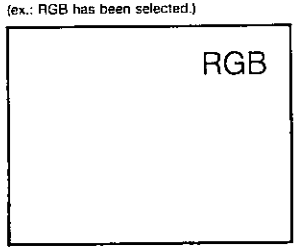


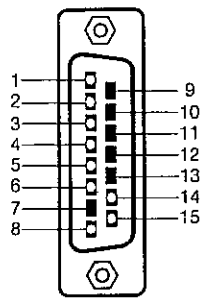
	Problem	Image	Cause
A	The image is horizontally stretched or compressed		Horizontal data display period is longer or shorter than the recommended value
B	The image is skewed to the extreme right or left of the screen		Horizontal back-porch period or front-porch period deviates from the recommended value
C	The image is vertically stretched compressed		Vertical data display period is longer or shorter than the recommended value.
D	The image is skewed to the extreme top or bottom of the screen		Vertical back-porch period or front-porch period deviates from the recommended value.
E	The image has streaking		Horizontal synch frequency deviates from the recommended range of values
F	The image scrolls vertically (rolling)		Vertical synch frequency deviates from the recommended range of values

Use the INPUT SELECT button to set the picture to "RGB", "S-VIDEO", or "VIDEO", depending on which input jack is being used.



ON SCREEN DISPLAY
(ex.: RGB has been selected.)





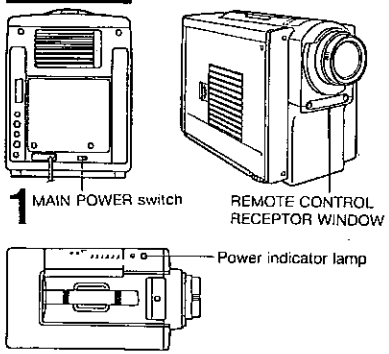
RGB Analog Video Input Connector
The RGB Analog Video Input terminal accepts a 15-pin D-Sub connector. The signal input to each pin must be as follows:

1. Red input	7. ——	13. ——
2. GND	8. GND	14. Composite sync or horizontal sync input signal
3. Green input	9. ——	
4. GND	10. ——	15. Vertical sync input signal
5. Blue input	11. ——	
6. GND	12. ——	

Note: Pins 7, 9, 10, 11, 12, 13 are not connected to the projector.

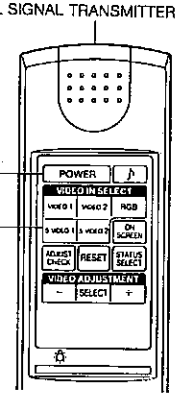
Basic Operation of the Projector

REAR VIEW



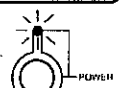
REMOTE CONTROL UNIT

REMOTE CONTROL SIGNAL TRANSMITTER



1 Turn ON the MAIN POWER switch

- Turn the main power switch to ON the first time you turn on the power after purchasing your projector, or any time the power display lamp is unlit.
- The power indicator lamp will be extinguished when the main power switch is turned OFF



The light will light up red when the main power switch is turned ON

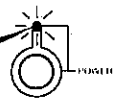
2 Turn ON the POWER switch

Press the POWER button

POWER

- The power indicator lamp goes from red to green and shows the operating condition of the projector lamp when the power is turned on

Flashing green ··· warming up
Green ··· lamp is ignited



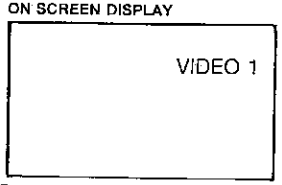
3 Selecting the video source

Press the VIDEO SELECT button to select the desired video input terminal.

- The video image from the video source connected to the selected input terminal is displayed.

The selected video source is indicated in the upper right portion of the screen for about 4 seconds.

ON SCREEN DISPLAY



(Example: VIDEO 1 was selected in this case)

Notes:

- Even when the power is turned off by using the POWER button, the COOLING FAN will continue to operate as long as the projector's internal temperature remains high (usually for about 2 min.). Do not disconnect the AC power cord plug, while the COOLING FAN is operating.
- If the projector is turned on immediately after it has been turned off, it may take a short while before the lamp is turned on. (During this period the POWER indicator lamp flashes green.)

Video Adjustment

- When the RESET button is pressed, the projector video adjustments are set to the factory preset positions. The picture can be adjusted to fit personal preferences by using the VIDEO ADJUSTMENT buttons on the REMOTE CONTROL.
- The adjustments can be memorized in the STATUS settings 1-5.

Video Adjustments

1 Use the STATUS SELECT button to select the video status you want to change.

STATUS SELECT

2 Adjust the picture by using the VIDEO ADJUSTMENT SELECT button and SELECT (+)(–) buttons.

VIDEO ADJUSTMENT

– | SELECT | +

Each time the STATUS button is pressed, the display will change.

ON SCREEN DISPLAY

STATUS 1
[VIDEO STATUS 1]
↓
STATUS 2
[VIDEO STATUS 2]
↓
STATUS 3
[VIDEO STATUS 3]
↓
STATUS 4
[VIDEO STATUS 4]
↓
STATUS 5
[VIDEO STATUS 5]

Each time you press the VIDEO ADJUSTMENT SELECT button while the On Screen Display is visible, the item selected for adjustment will change

[PICTURE] → [BRIGHT] → [COLOR] → [TINT] → [SHARPNESS] → [PICTURE]

When you press the SELECT (+)(–) buttons, the " ▮ " mark will move.

ON SCREEN DISPLAY

STATUS 1 PICTURE – 0 +
DECREASES INCREASES

STATUS 1 BRIGHT – 0 +
DARKER BRIGHTER

STATUS 1 COLOR – 0 +
DECREASES INCREASES

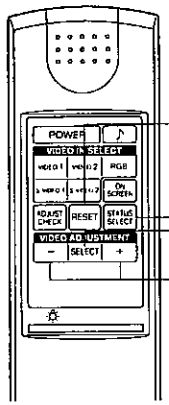
STATUS 1 TINT – 0 +
MORE PURPLE MORE GREEN

STATUS 1 SHARPNESS – 0 +
SOFTER SHARPER

Note:

- All video STATUS settings are set to standard preset positions when the projector is shipped from the factory.

REMOTE CONTROL UNIT



RESET button

1 STATUS SELECT button

2 VIDEO ADJUSTMENT SELECT button

2 SELECT (+)(−) buttons

Factory Preset

Press the RESET button

RESET

■ The RESET picture (as when shipped from factory) is selected.

ON SCREEN DISPLAY

RESET

To select video status

Press the STATUS SELECT button to select the desired video status mode.

STATUS SELECT

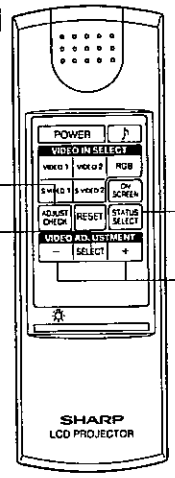
■ "STATUS 2" is displayed on the screen and the color picture is automatically adjusted according to the conditions stored in status setting 2.

ON SCREEN DISPLAY

STATUS 2

(Example: Display when STATUS 2 is selected)

REMOTE CONTROL UNIT



ADJUST CHECK button

2 VIDEO ADJUSTMENT SELECT button

1 STATUS SELECT button

2 SELECT (+)(−) buttons

Adjustment Check

Press the ADJUST CHECK button.

ADJUST CHECK

When the ADJUST CHECK button is pressed, the status and contents of adjustments are displayed.

ON SCREEN DISPLAY

STATUS 1 − 0 +
PICTURE
BRIGHT
COLOR
TINT
SHARPNESS

• Press the button again to switch off the on-screen display.

■ The image can be adjusted using the VIDEO ADJUSTMENT SELECT button and the SELECT (+)(−) buttons even in the adjustment confirmation mode (while the contents of adjustments are displayed on the screen).

Changing video adjustments while in the "Adjust Check" Mode.

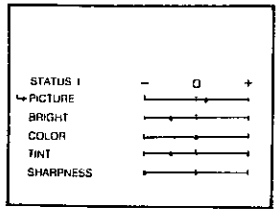
1 Select the status you want to change using the STATUS SELECT button.

STATUS SELECT

Each time the button is pressed, the display will change.

[STATUS 1] → [STATUS 2] → [STATUS 3] → [STATUS 4] → [STATUS 5] → [STATUS 1]

ON SCREEN DISPLAY



• The presently selected status is displayed.

2 Adjusting the picture to your preference using the VIDEO ADJUSTMENT SELECT button and the SELECT (+)(−) buttons.

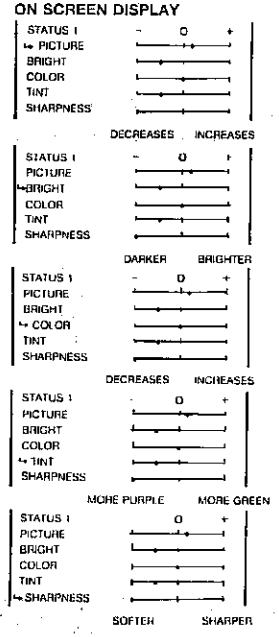
VIDEO ADJUSTMENT
− | SELECT | +

Each time you press the VIDEO ADJUSTMENT SELECT while the display is shown, the "↳" mark will move to indicate the selected video status item for adjustment.

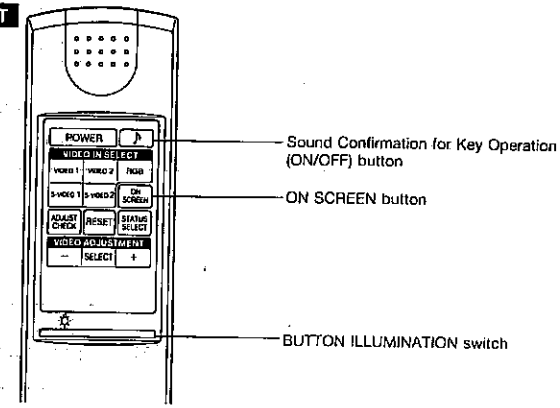
[PICTURE] → [BRIGHT] → [COLOR] → [TINT] → [SHARPNESS] → [PICTURE]

When the SELECT (+)(−) buttons are pressed, the "●" mark moves.

ON SCREEN DISPLAY



REMOTE CONTROL UNIT



Using the remote control in a dark room

Press the BUTTON ILLUMINATION switch

■ The operation buttons stay illuminated for about 5 seconds.

To have sound confirmation when the Remote Control buttons are pressed.

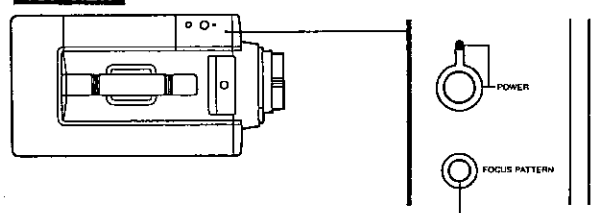
Press the Sound Confirmation for Key Operation (ON/OFF) button

• Every time a button is pressed a beep tone will be heard.

Note:

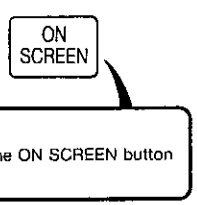
- If any of the operation buttons are pressed, the operation buttons will illuminate.
- If any of the operation buttons are pressed while the buttons are illuminated, they will stay illuminated for about 5 seconds after the button was pressed.

TOP VIEW



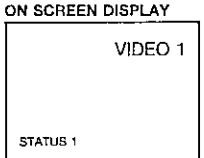
FOCUS PATTERN display button

Confirming selected video input terminal and video status



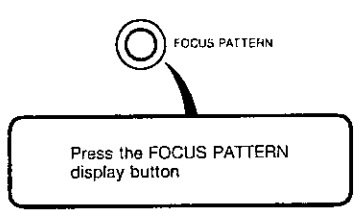
■ The selected video input terminal and video status are indicated on the screen for about 4 seconds.

ON SCREEN DISPLAY



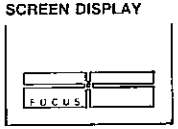
(Example: VIDEO 1 and STATUS 1 are selected)

To focus more accurately



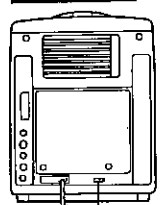
■ The focus pattern for accurate focusing is displayed on the screen for about 15 seconds. Use the pattern to focus the projector.

ON SCREEN DISPLAY



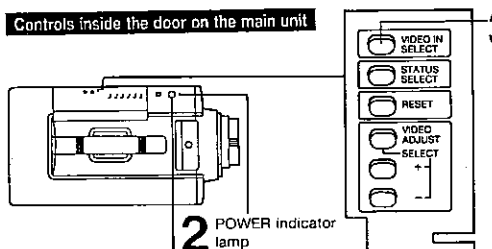
Basic Operation Using the Controls on the Projector

REAR VIEW



1 MAIN POWER switch

Controls inside the door on the main unit

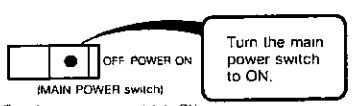


3 VIDEO IN SELECT button

2 POWER indicator lamp

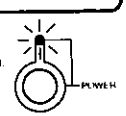
2 POWER button

1 Turn the main power on.



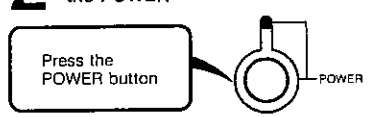
■ Turn the main power switch to ON the first time you turn on the power after purchasing your projector, or any time the power display lamp is unlit.

■ The power indicator lamp will be extinguished when the main power switch is turned OFF.

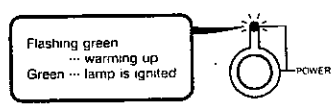


The light will light up red when the main power switch is turned ON.

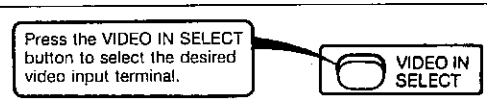
2 Turn ON the POWER



■ The power indicator lamp goes from red to green and shows the operating condition of the projector lamp when the power is turned on.



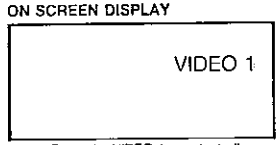
3 Selecting the video source



■ The video image from the video source connected to the selected input terminal is displayed.

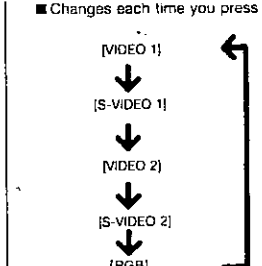
The selected video input terminal is indicated in the upper right portion of the screen for about 4 seconds.

ON SCREEN DISPLAY



(Example: VIDEO 1 is selected)

■ Changes each time you press the button.

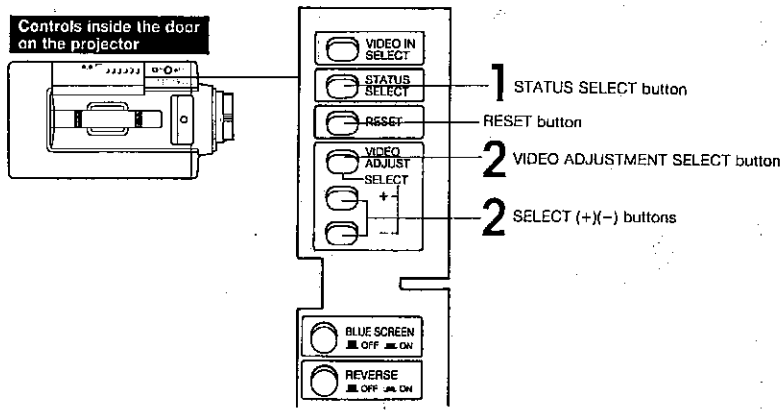


Notes:

- Even when the power is turned off by using the POWER button, the COOLING FAN will continue to operate as long as the projector's internal temperature remains high (usually for about 2 min.). Do not disconnect the AC power cord plug, while the COOLING FAN is operating.
- If the projector is turned on immediately after it has been turned off, it may take a short while before the lamp is turned on. (During this period the POWER indicator lamp flashes green.)

Operation Using the Controls on the Projector

■ When the RESET button is pressed, the projector picture adjustments are set to the factory preset positions. The picture can be adjusted by using the VIDEO ADJUSTMENT buttons located inside the door on the projector.
■ The adjustments can be memorized in the STATUS settings 1-5.



Adjusting the picture

1 Use the STATUS SELECT button to select the status you want to change.

STATUS SELECT

Each time the STATUS button is pressed, the display will change.

ON SCREEN DISPLAY

STATUS 1 (VIDEO STATUS 1) → STATUS 2 (VIDEO STATUS 2) → STATUS 3 (VIDEO STATUS 3) → STATUS 4 (VIDEO STATUS 4) → STATUS 5 (VIDEO STATUS 5) → STATUS 1

2 Adjust the picture to your preference by using the VIDEO ADJUSTMENT SELECT button and SELECT (+)(−) buttons.

VIDEO ADJUST SELECT + −

Each time you press the VIDEO ADJUSTMENT SELECT button while the On Screen Display is visible, the item selected for adjustment will change.

[PICTURE] → [BRIGHT] → [COLOR] → [TINT] → [SHARPNESS] → [PICTURE]

When you press the SELECT (+)(−) buttons, the " ▮ " mark will move.

ON SCREEN DISPLAY

STATUS 1 PICTURE	−	0	+
	DECREASES		INCREASES
STATUS 1 BRIGHT	−	0	+
	DARKER		BRIGHTER
STATUS 1 COLOR	−	0	+
	DECREASES		INCREASES
STATUS 1 TINT	−	0	+
	MORE PURPLE		MORE GREEN
STATUS 1 SHARPNESS	−	0	+
	SOFTER		SHARPER

Note:
• All video STATUS settings are set to the preset positions when the projector is shipped from the factory.

Reset Mode

Press the RESET button

RESET

■ The preset position (as when shipped from factory) is selected.

ON SCREEN DISPLAY

RESET

To select video status

Press the STATUS SELECT button to select the STATUS mode.

STATUS SELECT

■ "STATUS 2" is displayed on the screen and the color picture is automatically adjusted according to the conditions stored in status setting 2.

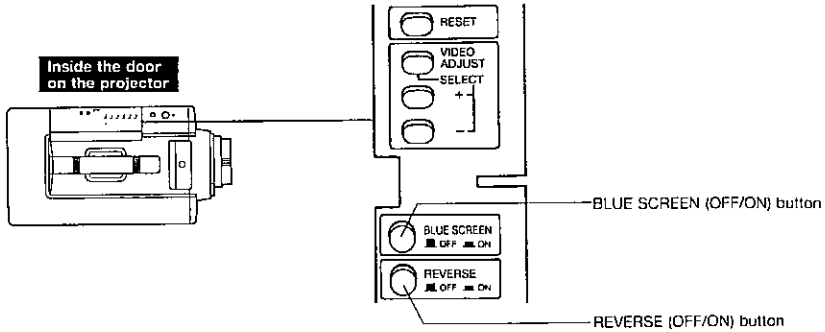
ON SCREEN DISPLAY

STATUS 2

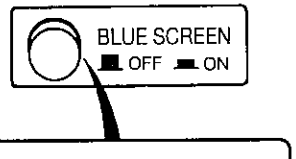
(Example: Display when status mode 2 is selected)

Features Operated Using Controls on the Projector

■ When there is no video signal input to the projector, the screen turns blue. This feature is called BLUE SCREEN.
Use the BLUE SCREEN button to decided whether the blue screen function should be ON or OFF.



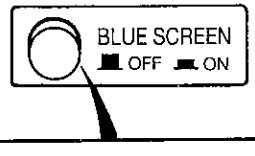
To activate the BLUE SCREEN function



Press the BLUE SCREEN button to the ON position.

•When the BLUE SCREEN button is set to ON, the screen turns blue when no signal is input via the terminal.

To cancel the BLUE SCREEN function



Press the BLUE SCREEN button to the OFF position.

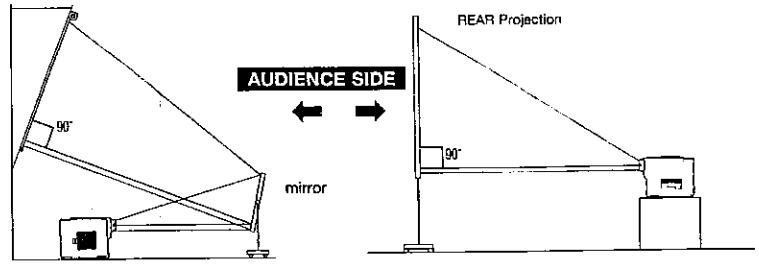
•When the BLUE SCREEN button is set to OFF, nothing is displayed when no signal is input via the terminal.

Note:

•If the BLUE SCREEN function is engaged for over 15 minutes, and no signal is input (the screen is blue), the power is automatically turned off

■ The projector allows the image to be reversed.
■ By utilizing the reverse function the following set-ups become possible.

■ By placing a mirror (normal flat type) in front of the zoom lens and using the reverse function, the image reflected from the mirror can be projected onto the screen.
■ Rear projection, using a rear projection screen is also possible when the reverse function is used.



Normal projection

Press the REVERSE button to the OFF position.

■ The REVERSE function is OFF. (For normal use the button should be set to this position.)

Reversing the image

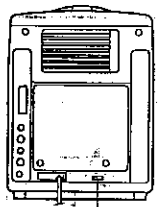
Press the REVERSE button to the ON position.

■ When the REVERSE function is ON, the image is flipped to a mirror image of the input video signal.

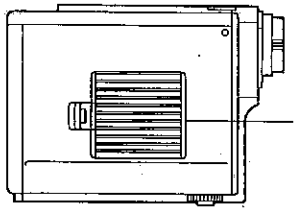
Maintenance

Air Filter

■ Clean the air filter after every one hundred hours of use.
The filter should be cleaned more frequently in very dusty areas.
■ If the dirt can not be cleaned off the filter, it is time to replace the filter.
Please consult your nearest Sharp dealer.



MAIN POWER switch



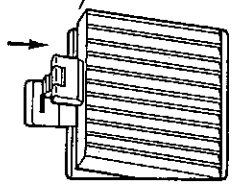
1 Turn the main power off.

Turn the main power switch to OFF.

(MAIN POWER switch)

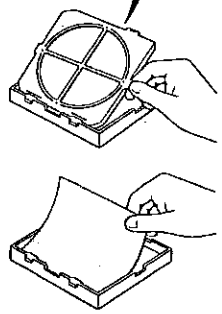
2 Remove the filter cover.

Slide the filter cover stopper in the direction of the arrow and pull up.



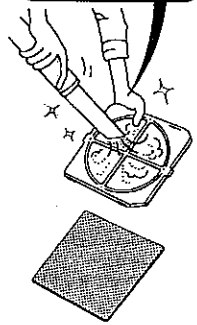
3 Remove the air filter.

Remove the air filter by grasping the projecting tab and pulling up, then remove the sponge filter.



4 Clean the air filter.

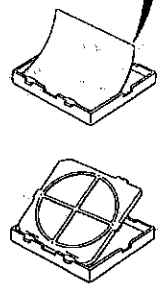
Clean the dirt off the air filter and the sponge filter with a vacuum cleaner.



• If the filter is very dirty, wash it with a neutral detergent dissolved in cool or lukewarm water, then leave it in the sun to dry.

5 Replace the air filter.

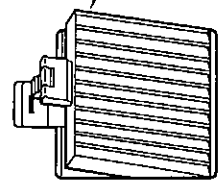
Replace the sponge filter and the air filter in the filter cover as before.



• Be careful not to bend the filter.

6 Replace the filter cover.

Reattach the filter cover to the projector.



• Be sure that the filter cover is securely installed. If the cover is loose, the power may not come on.

Note:

• Vacuum the outer side of the filter only.
Vacuuming the inner side will damage the filtering capability of the air filter.

Maintenance Indicator

Lamp

The lamp has an operating life.

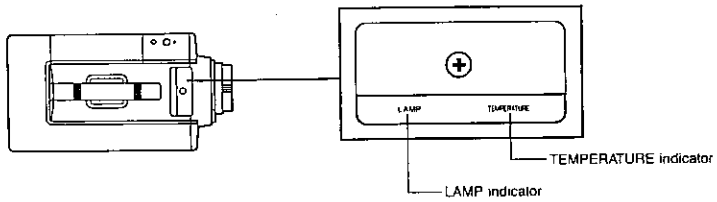
1 When the lamp is nearly burned out, the picture and color quality deteriorate. At this point, replace the lamp.

2 If the new lamp does not light after replacement, take your projector to the nearest Authorized SharpVision Service Dealer for repair.

• Intense light hazard. Do not attempt to look into the aperture and lens while the projector is operating.

■ The warning lights on the projector to indicate problems inside the projector.
■ There are two warning lights; a TEMPERATURE indicator which warns that the projector is too hot, and a LAMP indicator which lets you know when to change the bulb.
■ If a problem occurs, either the TEMPERATURE indicator or the LAMP indicator will light up red, and the power will shut off. After turning off the power, follow the procedures written bellow.

TOP VIEW



Maintenance Indicator

If the TEMPERATURE indicator or the LAMP indicator lights up and the power turns off, the following problems are possible.

Note
The following examples;

Warning Indicator	Symptom	Problem	Possible Solution
TEMPERATURE indicator	The internal temperature is abnormally high.	• Blocked air intake.	• Relocate projector to in a proper location.
		• Clogged air filter.	• Clean the filter.
		• Cooling fan breakdown. • Internal circuit failure.	• Take to your nearest retail outlet for repair.
LAMP indicator	The lamp does not light up.	• Burnt-out bulb. • Lamp circuit failure	• Take to your nearest retail outlet for repair.

Note: If the Temperature Monitor indicator light comes on, after servicing, please wait until the projector has cooled down completely before turning the power back on. (At least 5 min.)

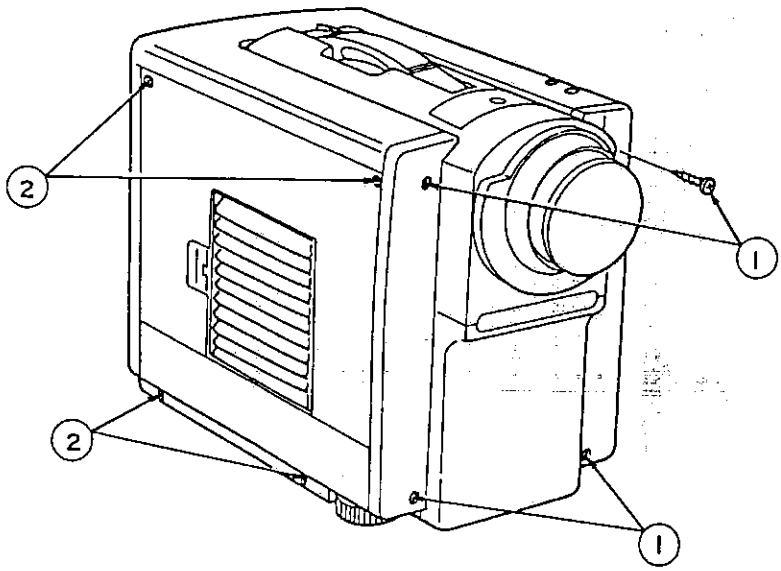
Before Calling for Service

No picture	• The projector is not plugged into the AC wall outlet. • The POWER switch is not pressed. • The BRIGHT (−) control is set to the minimum position.
Color is poor or faded	• The COLOR (+) and (−) controls are not properly adjusted.
Picture is blurred	• Adjust the FOCUS. • The projection distance is too long to allow for proper focus. • Clean the lens with lens cleaning paper.
An unusual sound is heard from cabinet occasionally	• If picture is normal, the sound is due to cabinet shrinkage caused by temperature changes. This will not affect operation.
Maintenance indicator lights	• Refer to "Maintenance indicator".

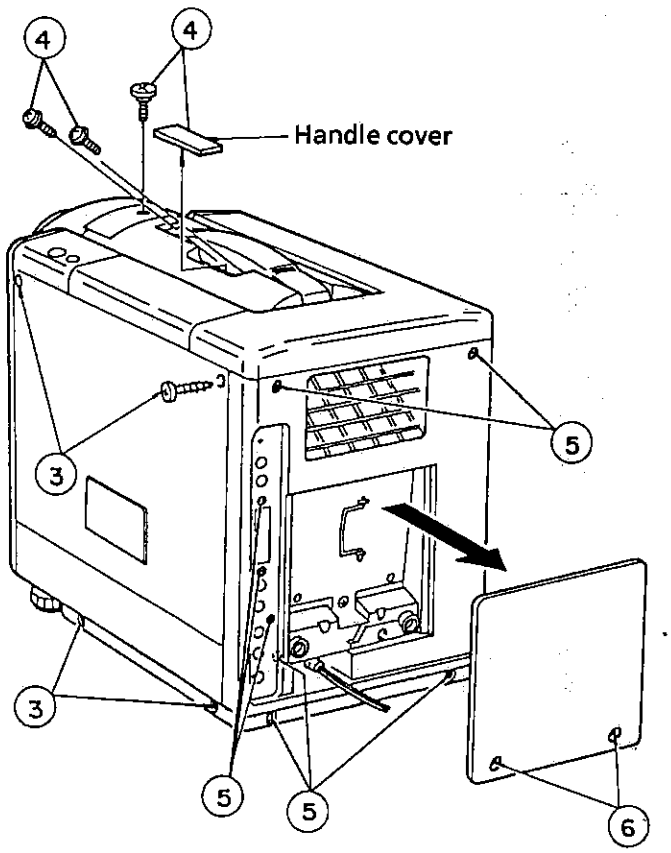
REMOVAL OF MAJOR PARTS

Removal of cabinet

1. Remove the 4 front cabinet fixing machine screws.
2. Remove the 4 left side cabinet fixing machine screws.

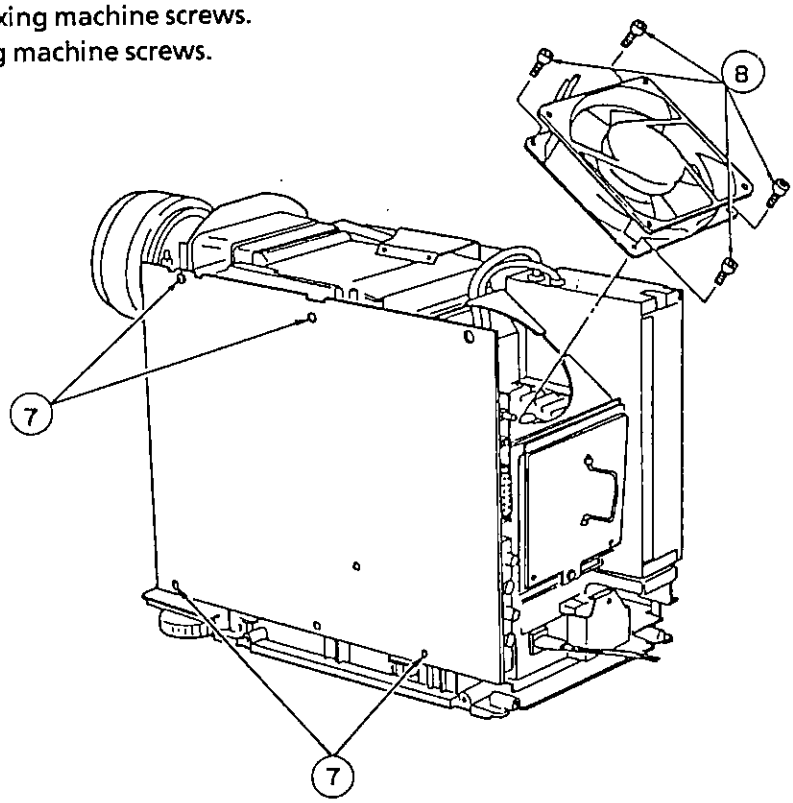


3. Remove the 4 right side cabinet fixing machine screws.
4. Remove the 3 top cabinet fixing machine screws, and remove the handle cover.
5. Remove the 8 rear cabinet fixing machine screws.
6. Remove the 2 lamp replacement panel fixing screws.



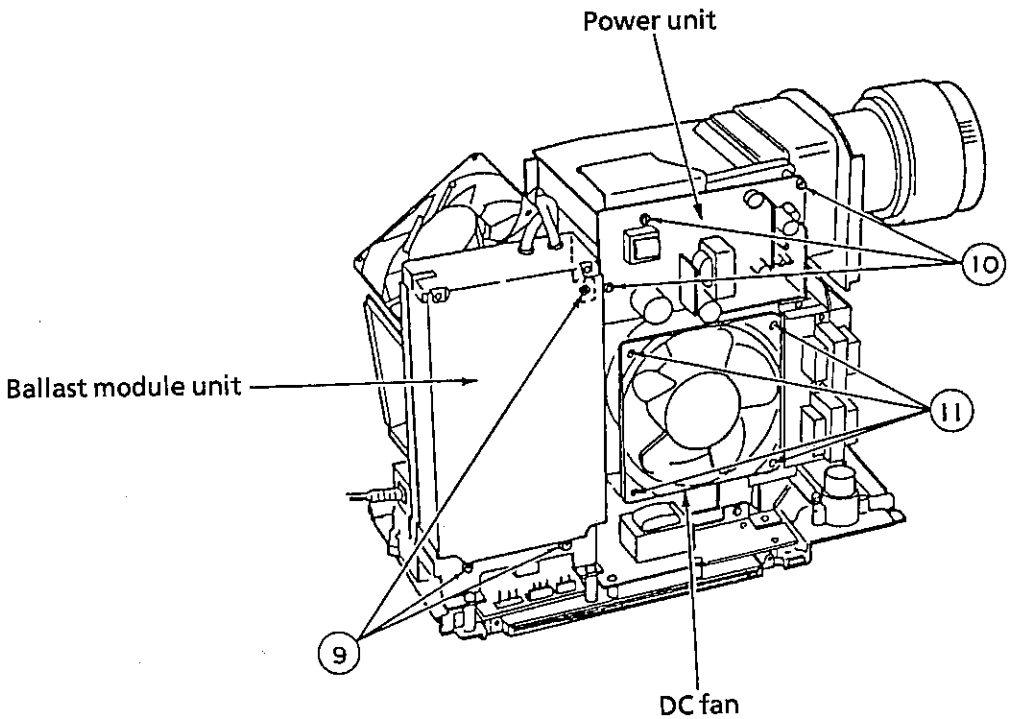
Removal of main PWB and rear fan

7. Remove the 4 main PWB fixing machine screws.
8. Remove the 4 AC fan fixing machine screws.



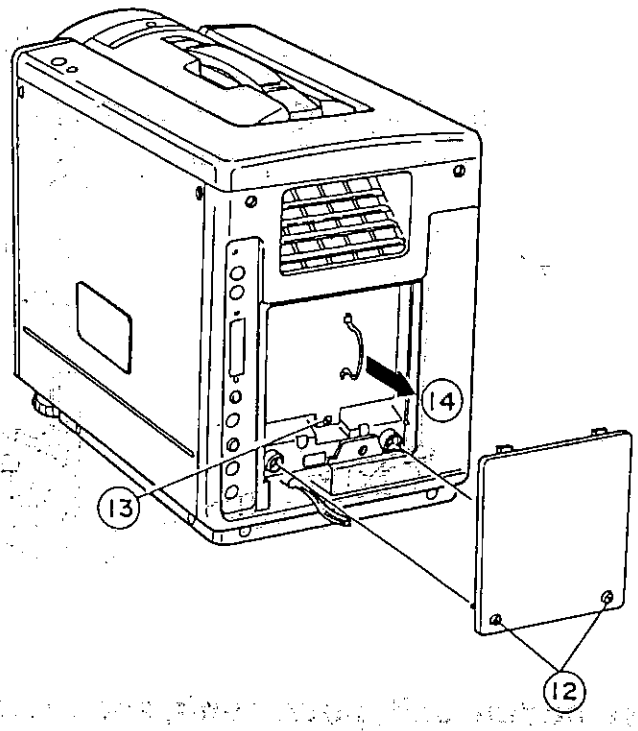
Removal of ballast module unit, power unit, and DC fan

9. Remove the 3 ballast module unit fixing machine screws.
10. Remove the 4 power unit fixing machine screws.
11. Remove the 4 DC fan fixing machine screws.



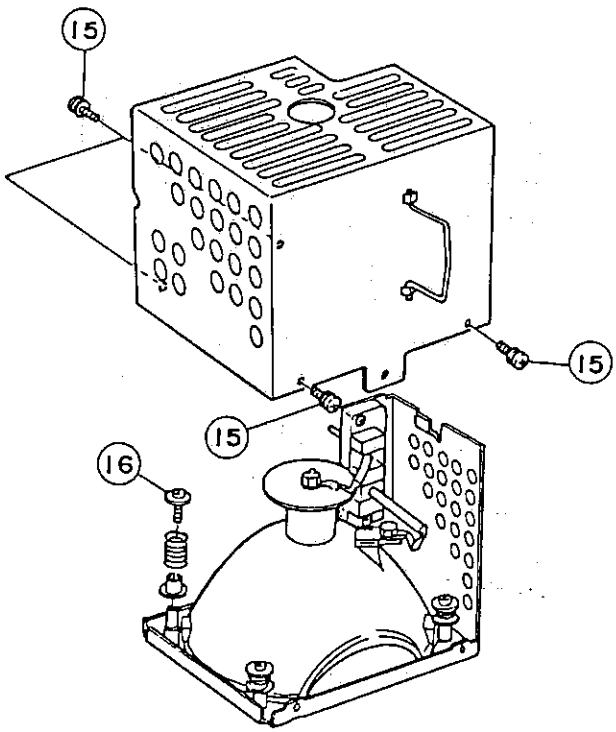
Removal of lamp box

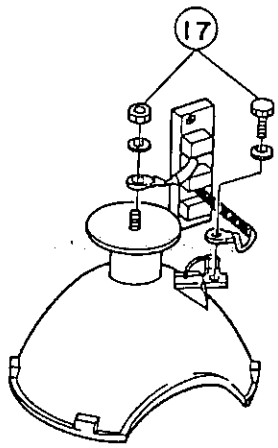
12. Remove the 2 lamp replacement panel fixing machine screws.
13. Remove the lamp box fixing machine screw.
14. Draw out the lamp box in the arrowed direction.



Replacement of lamp

15. Remove the 2 angle fixing machine screws of the lamp box.
16. Remove the 4 lamp fixing machine screws.
17. Remove the hexagonal nuts, machine screws, and washers in two lamp electrodes for replacing the lamp.

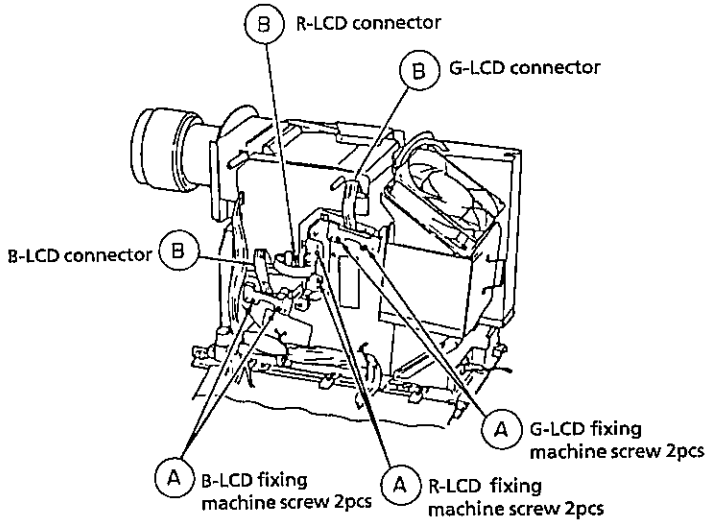


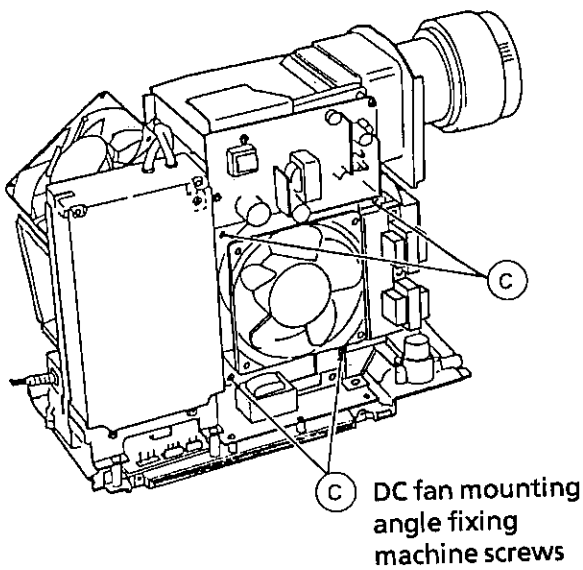


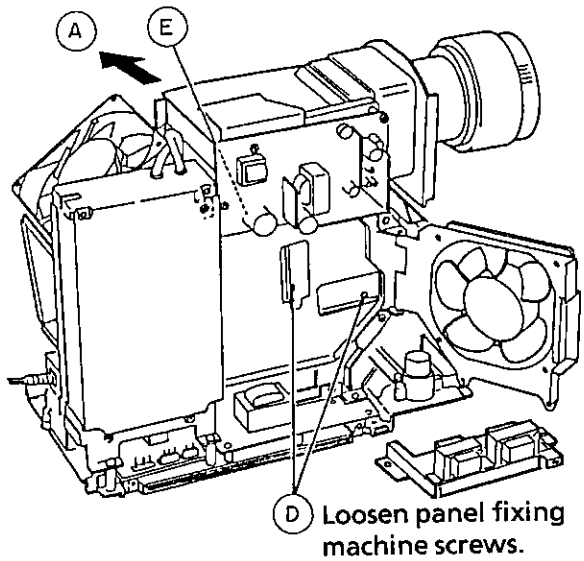
Removal of LCD panel

Procedure

Ⓐ. Remove the 2 LCD panel fixing machine screws for each of R,G, and B.
Ⓑ. Remove the LCD panel connector for each of R,G,and B.
Ⓒ. Remove the 4 DC fan mounting angle fixing machine screws on the opposite side,and open the fan.
Ⓓ. Loosen the LCD panel fixing machine screw for R and B respectively, and slide to side A for removal.
Ⓔ. Insert a screwdriver through the rear side of power unit for G-LCD panel to loosen the machine screw.


B R-LCD connector
B G-LCD connector
B-LCD connector B
A G-LCD fixing machine screw 2pcs
A B-LCD fixing machine screw 2pcs
A R-LCD fixing machine screw 2pcs





*Poor Picture due to Dust Mixing

Phenomenon

① Use in long time results in fine dotted or stained picture.
② Uneven color of Cyan, Magenta, and Yellow occurs in a part of screen.

Checking procedure

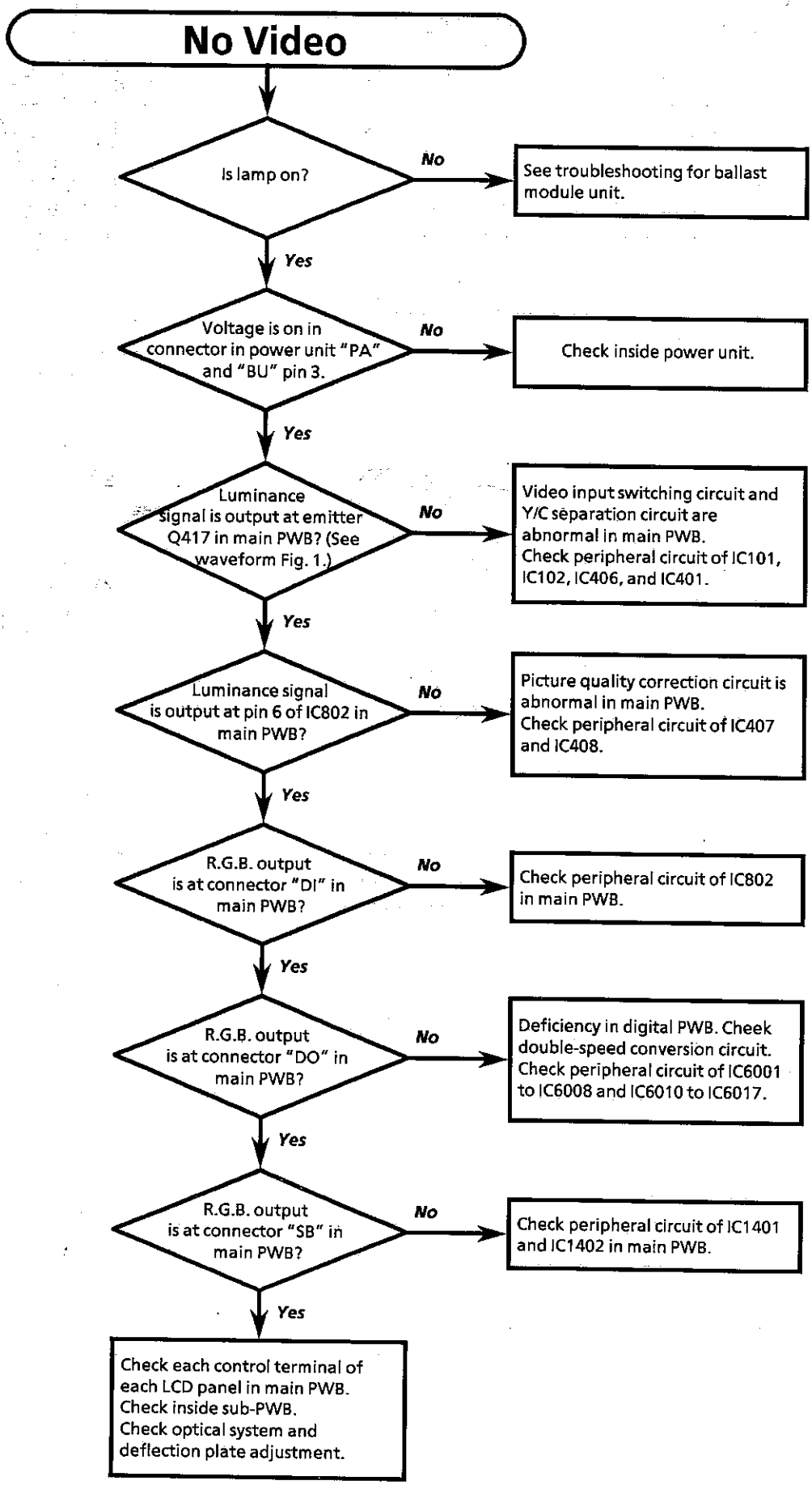
1) When dust adheres to each R, G, and B panel, the following symptons appear on the screen.,
   ① R-LCD panel→Cyan ②G-LCD panel→Magenta ③B-LCD panel→Yellow
2) By changing the focus, it can be distinguished to which of front and rear of the panel dust adheres.

- Dust in the front of panel→Focused on dust before the best focus point.
- Dust in the rear of panel →Focused on dust after the best focus point.

Countermeasure

Remove the dust adhered to the panel face with vacuum air,etc.

TROUBLE SHOOTING TABLE


No Video
Is lamp on?
No
See troubleshooting for ballast module unit.
Yes
Voltage is on in connector in power unit "PA" and "BU" pin 3.
No
Check inside power unit.
Yes
Luminance signal is output at emitter Q417 in main PWB? (See waveform Fig. 1.)
No
Video input switching circuit and Y/C separation circuit are abnormal in main PWB. Check peripheral circuit of IC101, IC102, IC406, and IC401.
Yes
Luminance signal is output at pin 6 of IC802 in main PWB?
No
Picture quality correction circuit is abnormal in main PWB. Check peripheral circuit of IC407 and IC408.
Yes
R.G.B. output is at connector "DI" in main PWB?
No
Check peripheral circuit of IC802 in main PWB.
Yes
R.G.B. output is at connector "DO" in main PWB?
No
Deficiency in digital PWB. Cheek double-speed conversion circuit. Check peripheral circuit of IC6001 to IC6008 and IC6010 to IC6017.
Yes
R.G.B. output is at connector "SB" in main PWB?
No
Check peripheral circuit of IC1401 and IC1402 in main PWB.
Yes
Check each control terminal of each LCD panel in main PWB. Check inside sub-PWB. Check optical system and deflection plate adjustment.

TROUBLE SHOOTING TABLE (Continued)

No color/Abnormal tint on video and S-video

Select color depth and tint with the video adjusting key, and operate with adjustment UP/DOWN. (Note) does not change for standard video.

Control voltage of IC801 in main PWB changes?
Color depth IC801 pin 13 approx. ± 0.5V(DC).
Color tint IC801 pin 12 approx. ± 0.2V(DC)

Do the following points of digital PWB input terminal (DI connector) change?
R→DI-3, See waveform Fig. 13
G→DI-5, See waveform Fig. 14
B→DI-7, See waveform Fig. 15

→ Check peripheral circuit of IC802 and IC801 in main PWB.
Check IC801BLK, chroma input, and color difference output.
See waveform Figs 5, 6, 7 etc.

Microprocessor (IC2001) control voltage in main PWB changes?
Check color depth IC2001 pin 9 PWM output.
Check color tint IC2001 pin 8 PWM output.

→ Check peripheral circuit of microprocessor processor (IC2001) in main PWB.
Such as video selection DAC UP and DOWN key input periphery.

→ Check peripheral circuit of microprocessor (IC2001) in main PWB.

Do the following points of digital PWB input terminal (DO connector) change?
R→D0-4, See waveform Fig. 17
G→D0-6, See waveform Fig. 18
B→D0-8, See waveform Fig. 19

→ Deficiency in digital PWB
Check peripheral circuit.
See waveform Figs 13 - 20.

Do the following points of video input terminal pin 9 on each LCD panel change?
R→R-LCD pin 9, See waveform Fig. 25
G→G-LCD pin 9, See waveform Fig. 26
B→B-LCD pin 9, See waveform Fig. 27

→ Deficiency in sub-PWB
Check peripheral circuit.
See waveform Figs 17 - 28.

Check control terminal of each LCD panel.
- Check peripheral circuit of IC1401.
- Check optical system and polarization board etc.

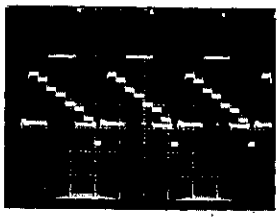


Fig. 1. Emitter of Q417
Y signal
20μs/div 0.5V/div

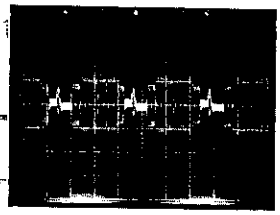


Fig. 2. Pin 31 of IC801
C signal
20μs/div 50mV/div

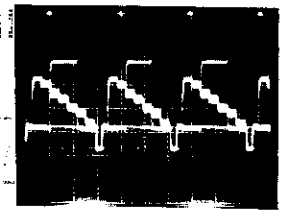


Fig. 3. Pin 4 of IC801
Sync input
20μs/div 0.5V/div

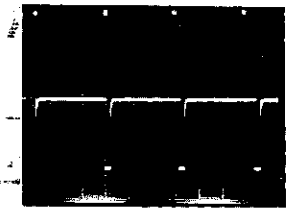


Fig. 4. Pin 28 of IC801,
Sync judgment output
20μs/div 2V/div

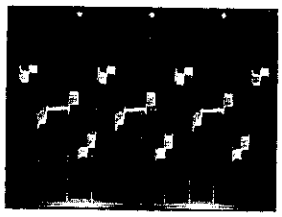


Fig. 5. Pin 20 of IC801
R-Y
20μs/div 1V/div

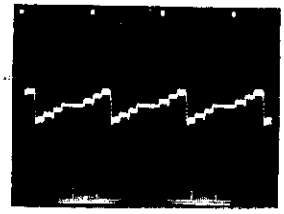


Fig. 6. Pin 21 of IC801
G-Y
20μs/div 1V/div

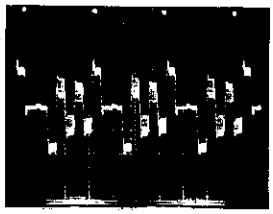


Fig. 7. Pin 22 of IC801
B-Y
20μs/div 1V/div

Fig. 8. Emitter of Q803
Fsc
0.1μs/div 0.2V/div

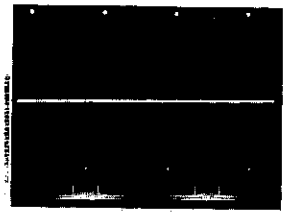


Fig. 9. Pin 7 of IC602
Blanking
20μs/div 0.2V/div

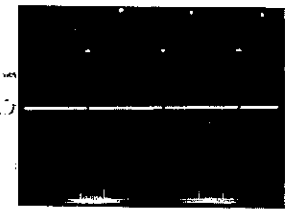


Fig. 10. Pin 6 of IC603
Clamp
20μs/div 0.2V/div

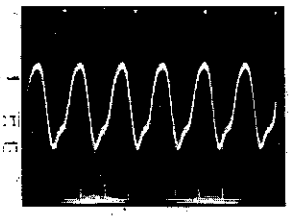


Fig. 11. Pin 6 of IC6009
28MHz, OSC OUT
20μs/div 1V/div

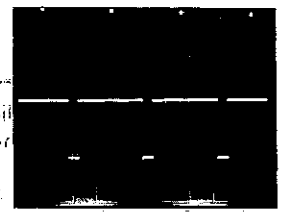


Fig. 12. Pin 7 of IC604
V-Sync
5ms/div 1V/div

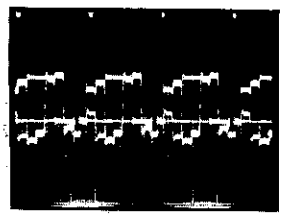


Fig. 13. Pin 3 of connector DI
RED input
20μs/div 0.5V/div

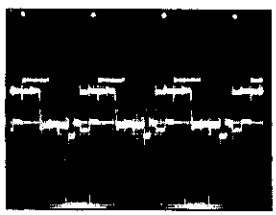


Fig. 14. Pin 5 of connector DI
GREEN input
20μs/div 0.5V/div

Fig. 15. Pin 7 of connector DI
BLUE input
20μs/div 0.5V/div

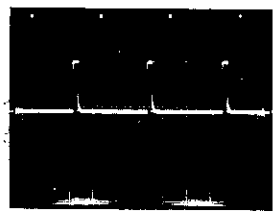


Fig. 16. Pin 1 of connector DI
H-Sync input
20μs/div 2V/div

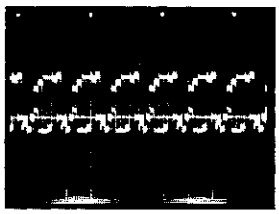


Fig. 17. Pin 4 of connector DO
RED output
20μs/div 0.5V/div

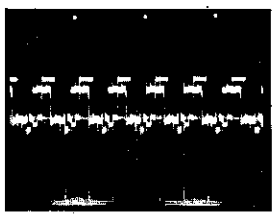


Fig. 18. Pin 6 of connector DO
GREEN output
20μs/div 0.5V/div

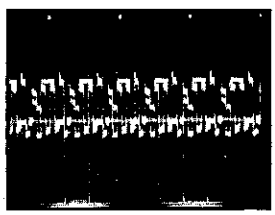


Fig. 19. Pin 8 of connector DO
BLUE output
20μs/div 0.5V/div

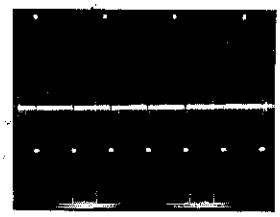


Fig. 20. Pin 1 of connector DO
2H sync output
20μs/div 2V/div

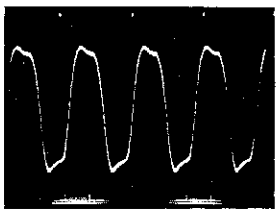


Fig. 21. Pin 2 of GREEN LCD
CKI
20ns/div 1V/div

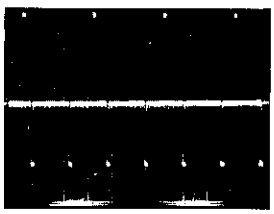


Fig. 22. Pin 4 of GREEN LCD
RES
20μs/div 2V/div

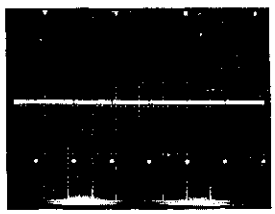


Fig. 23. Pin 9 of IC1001
HSYO
20μs/div 2V/div

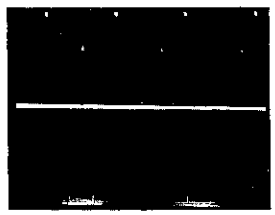


Fig. 24. Pin 14 of GREEN LCD
LCD VSYNC
5ms/div 2V/div

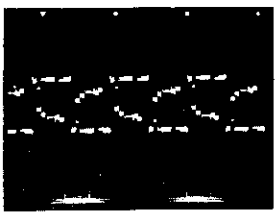


Fig. 25. Pin 3 of connector SB
RED-VIDEO
20μs/div 1V/div

Fig. 26. Pin 5 of connector SB
GREEN-VIDEO
20μs/div 1V/div

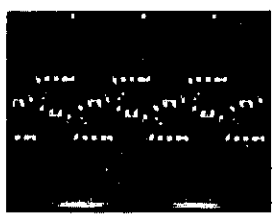


Fig. 27. Pin 1 of connector SB
BLUE-VIDEO
20μs/div 1V/div

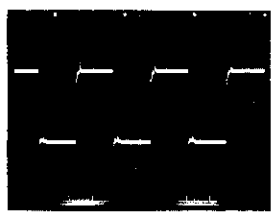
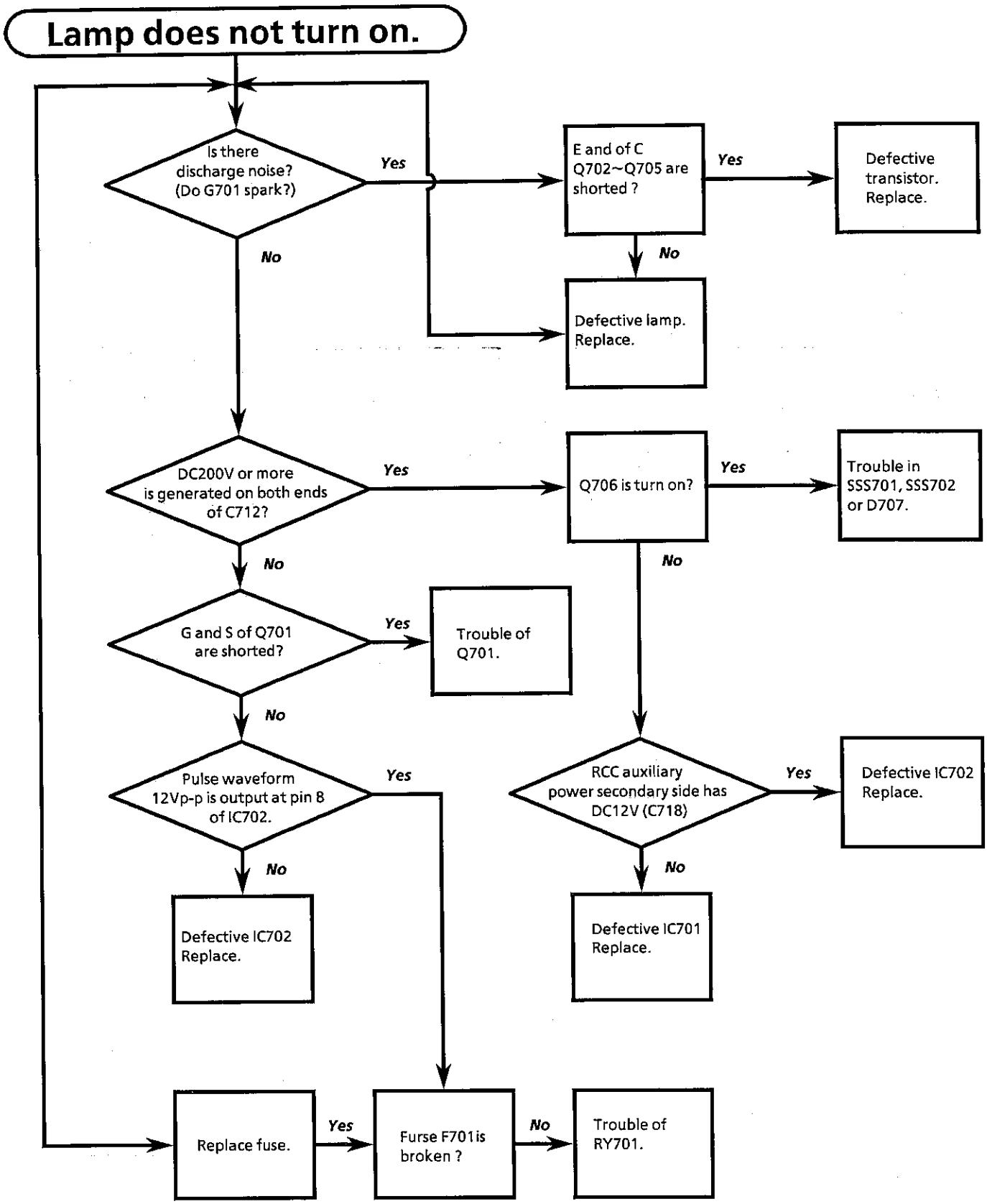


Fig. 28. Pin 13 of GREEN LCD
LCD COM
20μs/div 2V/div

TROUBLE SHOOTING TABLE (Continued)

■ Troubleshooting for ballast module unit

Ballast module unit generates high voltage in starting up, so do not turn on power with the lamp removed.



TROUBLE SHOOTING TABLE (Continued)

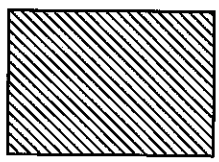
Video and S-video cannot be synchronized.

Sync judgment output waveform is output at pin 28 of IC801 in main PWB? See waveform Fig. 4.

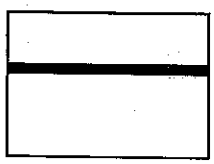
Yes

No

Which of horizontal sync and vertical sync is impossible?



Horizontal



Vertical

Signal is at pin 7 of IC412 in main PWB?

Yes

No

Check periphery circuit of Q820, Q818 and IC801 in main PWB.

Check peripheral circuit of input switching circuit IC101 and IC102 in main PWB.

2H-SYNC output at pin 2 of DO connector in main PWB is present, and synchronized with output at pin 28 of IC801?

No

Yes

Check periphery of syne circuit in digital PWB unit.

Output at pin 9 or IC1001 in sub-PWB is present and synchronized with output at pin 28 of IC801 in main PWB.

No

Yes

Check IC605 and IC606 and peripheral circuit of IC1001 in sub-PWB.

Check peripheral circuit of IC1401 in main PWB and IC1001 in sub-PWB. Check each LCD panel.

Vertical sync signal at pin 7 in main PWB IC604 is output and synchronized with pin 28 of IC801?

No

Yes

Check peripheral circuit of IC607, IC604 and IC605 in main PWB.

Input is applied to V-sync input pin 14 on each LCD panel and synchronized with pin 28 of IC801 in main PWB.

No

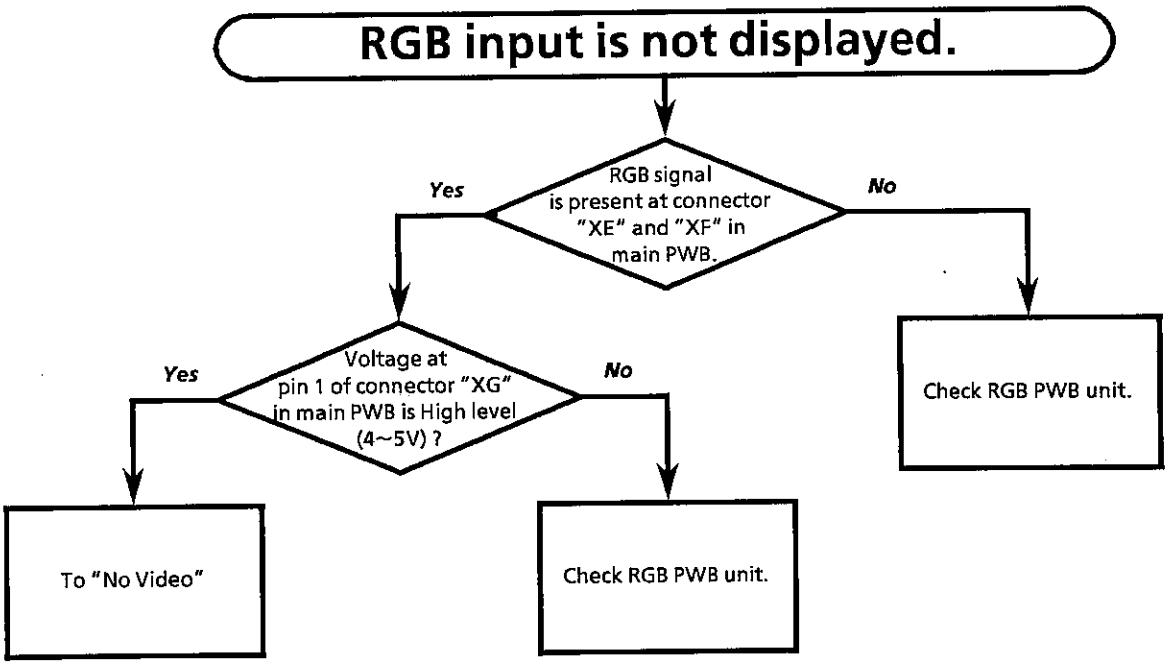
Yes

Check IC606 on main PWB as well as peripheral circuit of sub-PWB.

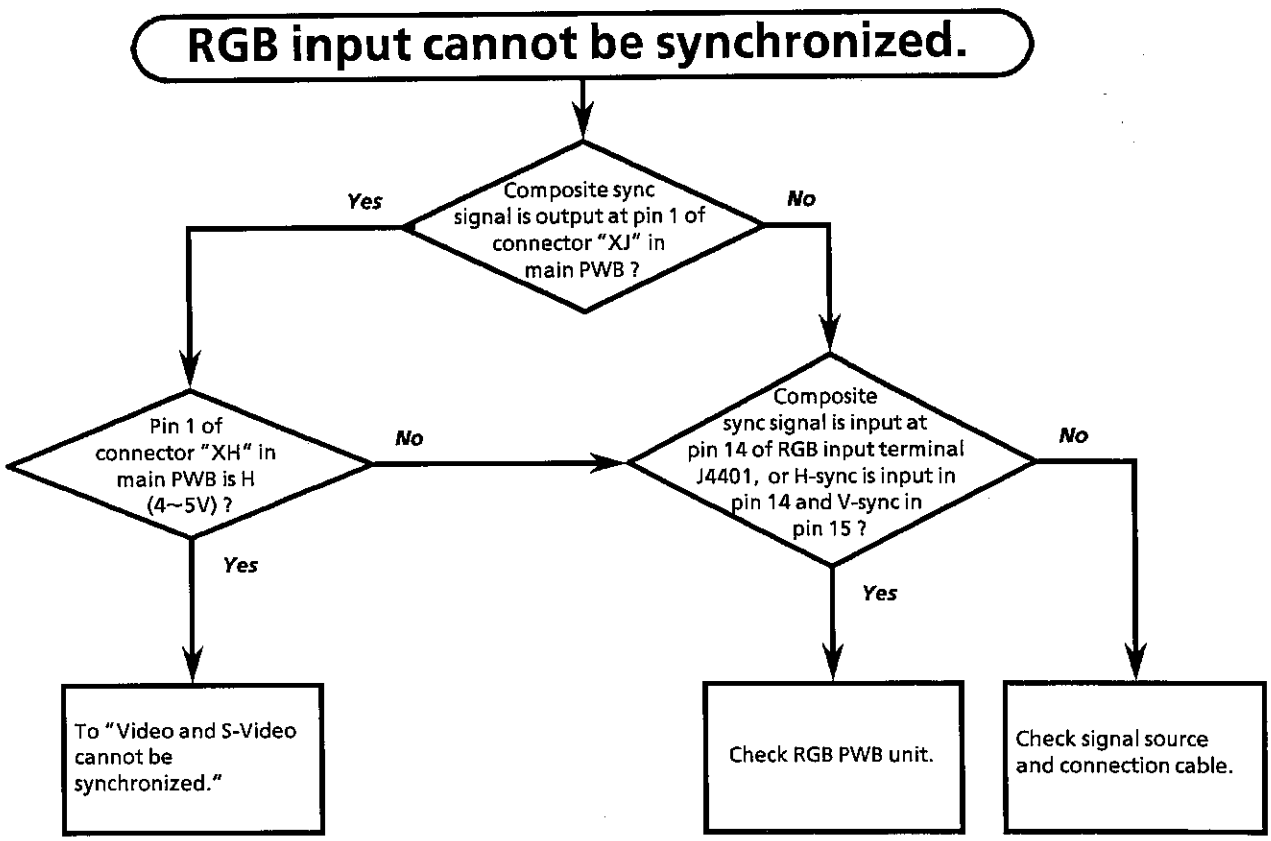
LCD panel Check frequency phase of vertical sync signal again.

TROUBLE SHOOTING TABLE (Continued)

RGB input is not displayed.


RGB signal is present at connector "XE" and "XF" in main PWB.
Yes
No
Check RGB PWB unit.
Voltage at pin 1 of connector "XG" in main PWB is High level (4~5V) ?
Yes
No
To "No Video"
Check RGB PWB unit.

RGB input cannot be synchronized.


Composite sync signal is output at pin 1 of connector "XJ" in main PWB ?
Yes
No
Pin 1 of connector "XH" in main PWB is H (4~5V) ?
No
Yes
To "Video and S-Video cannot be synchronized."
Composite sync signal is input at pin 14 of RGB input terminal J4401, or H-sync is input in pin 14 and V-sync in pin 15 ?
No
Yes
Check RGB PWB unit.
Check signal source and connection cable.

ADJUSTMENT OF VARIOUS PARTS

Preparation

(1) Check of power voltage
Rated voltage (AC120V) is properly applied, (Each DC output, from power unit)

(2) Check of signal

1) RGB signal input
Correct DC and AC lavels applied. (See waveform graphic 13, 14, and 15.)

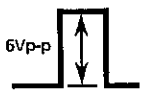
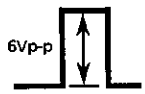
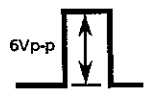
2) Sync signal input
Composite sync signal (positive polarity) properly synchronized with RGB signal is applied to the terminal.
Also input signal should be standard (15.734kHz). (See waveform graphic 16.)

- Standard setting mode: Turn on video standard button (S2015).
- Color bar signal: Input color bar of signal generator.
- Monoscope signal: Use a pattern generator equipped with monoscope mode.
  Monoscope pattern and generator (reference)

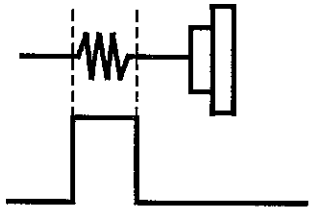
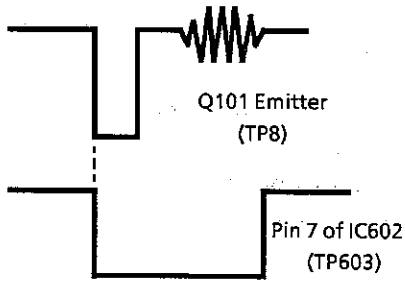
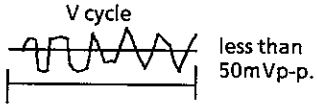
Adjustment of digital substarate

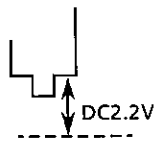
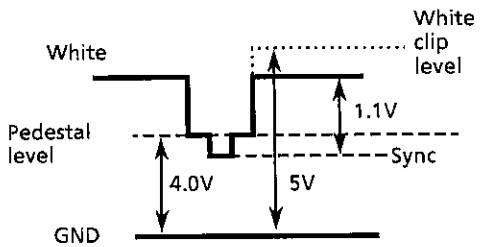
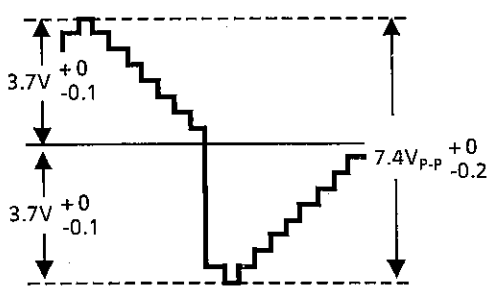
	Item	Adjustment condition	Adjustment procedure
1	Reference voltage R6020	Connect a digital voltmeter between TP-6001 and GND.	Adjust at 3.0 ± 0.1V with R6020.
2	PLL adjustment T6001	1) Lay SW6001 down to ON side. 2) Adjust T6001 so that the frequency of double-speed RGB signal and that of double-speed sync signal (2H · · · Negative polarity) are the same.	1) When a counter is used, adjust the frequency of TP-6003 to 31.468 ± 0.06kHz.

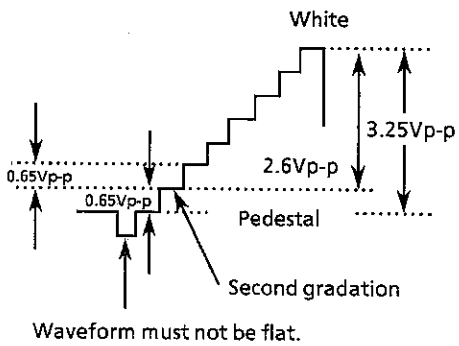
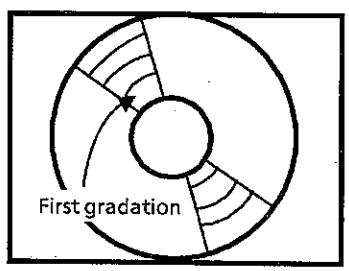
Adjustment of controller substrate

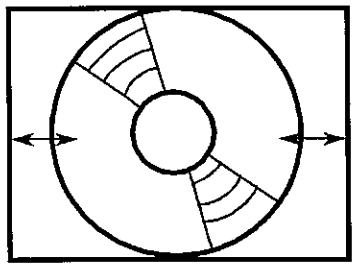
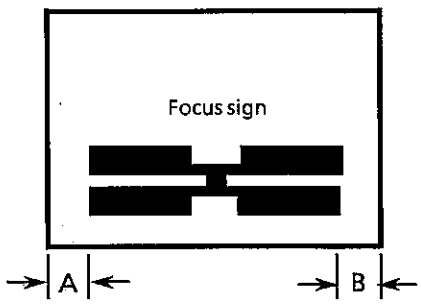
	Item	Adjustment condition	Adjustment procedure
1 2 3	Phase level R1014 H-HOLD L1001 Phase adjustment R1001	1) Short pin 2 of SC connector (TP1004) and GND (TP1005) to perform free run. 2) Input monoscope signal. 3) Remove short circuit of 1).	Adjust R1014 so that the voltage at TP1003 (pin 32 of IC1001) is 2.2V ± 0.05V. Turn L1001 so that the picture stands. Adjust H center on the picture with R1001.
4	Counter electrode, Amplitude adjustment R (R1483)	1) Input monoscope signal. 2) Connect an oscilloscope to pin 13 (TP1405) of R-LCD panel.	Turn R1483 to adjust counter electrode amplitude waveform at 6.0Vp-p ± 0.1Vp-p. 
5	Counter electrode, Amplitude adjustment G (R1495)	1) Input monoscope signal. 2) Connect an oscilloscope to pin 13 (TP1406) of G-LCD panel.	Turn R1495 to adjust counter electrode amplitude waveform at 6.0Vp-p ± 0.1Vp-p. 
6	Counter electrode, Amplitude adjustment B (R1489)	1) Input monoscope signal. 2) Connect an oscilloscope to pin 13 of B-LCD panel. (TP1404)	Turn R1489 to adjust counter electrode amplitude waveform at 6.0Vp-p ± 0.1Vp-p. 
7	Counter electrode, Amplitude adjustment R (R1486)	1) Input monoscope signal. 2) Place a light shielding plate in B and G LCD panel to obtain single R color.	Turn R1486 to obtain maximum contrast.
8	Counter electrode, Amplitude adjustment G (R1498)	1) Input monoscope signal. 2) Place a light shielding plate in B and R LCD panel to obtain single G color.	Turn R1498 to obtain maximum contrast.
9	Counter electrode, Amplitude adjustment B (R1492)	1) Input monoscope signal. 2) Place a light shielding plate in G and R LCD panel to obtain single B color.	Turn R1492 to obtain maximum contrast.
10	R-CLK bias R1069	1) Input monoscope signal. 2) Place a light shielding plate in B and G LCD panel to obtain single R color.	Turn R1069 to adjust DC voltage at R connector pin 2 (TP1011) of LCD at 2.3V, and ensure that there is no noise on screen.
11	G-LCK bias R1071	1) Input monoscope signal. 2) Place a light shielding plate in B and R LCD panel to obtain single G color.	Turn R1070 to adjust DC voltage at G connector pin 2 (TP1012) of LCD at 2.3V, and ensure that there is no noise on screen.
12	B-CLK bias R1071	1) Input monoscope signal. 2) Place a light shielding plate in G and R LCD panel to obtain single B color.	Turn R1071 to adjust DC voltage at B connector pin 2 (TP1013) of LCD at 2.3V, and ensure that there is no noise.

Adjustment of main substrate

	Item	Adjustment condition	Adjustment procedure
1	Clamp pulse phase adjustment R614	1) Input color bar signal. 2) Connect an oscilloscope to TP604 (pin 6 of IC603) and TP804 (pin 31 of IC801).	Turn R614 to adjust the clamp pulse phase to burst signal phase. 
2	H-BLK phase adjustment R609	1) Input color bar signal. 2) Connect an oscilloscope to TP603 (pin 7 of IC602) and TP8 (emitter of Q101).	Turn R609 to adjust the waveform phase as belows. 
3	APC adjustment R820	1) Turn off colors in the manner belows. 2) Short the base of Q420 to GND. 3) Connect a color bar signal generator, turn off color burst SW, and input color bar signal with color burst signal sampled out. 4) Connect resistance 5.6k ohms between pin 15 (TP2403) of IC801 and 9V power line.	Turn R820 to set a point where barbar pole disappears.
4	DCF adjustment R2458 R2461 R2472 C2476 R2493 R2499	1) Input color bar signal. 2) Connect an oscilloscope to TP401 (pin 1 or IC403) and 402 (pin 3 of IC403) and set "ADD" mode of on oscilloscope. 3) Connect an oscilloscope to TP402 (pin 3 of IC403) and 403 (pin 5 of IC403) and set "ADD" mode of on oscilloscope. 4) Connect an oscilloscope to TP404 (emitter of Q466).	Turn R2458 and R2461 to adjust the waveform at minimum. Turn R2472 and C2476 to adjust the waveform at minimum. Turn R2493 and R2499 to adjust chroma level on Y waveform at minimum.
5	Vertical noise adjustment R2417 T2401	1) Input color bar signal. 2) Connect an oscilloscope between pin 6 (TP2403) of IC2401 and GND.	 Turn R2417 and T2401 by turns to adjust the amplitude of waveform at minimum.

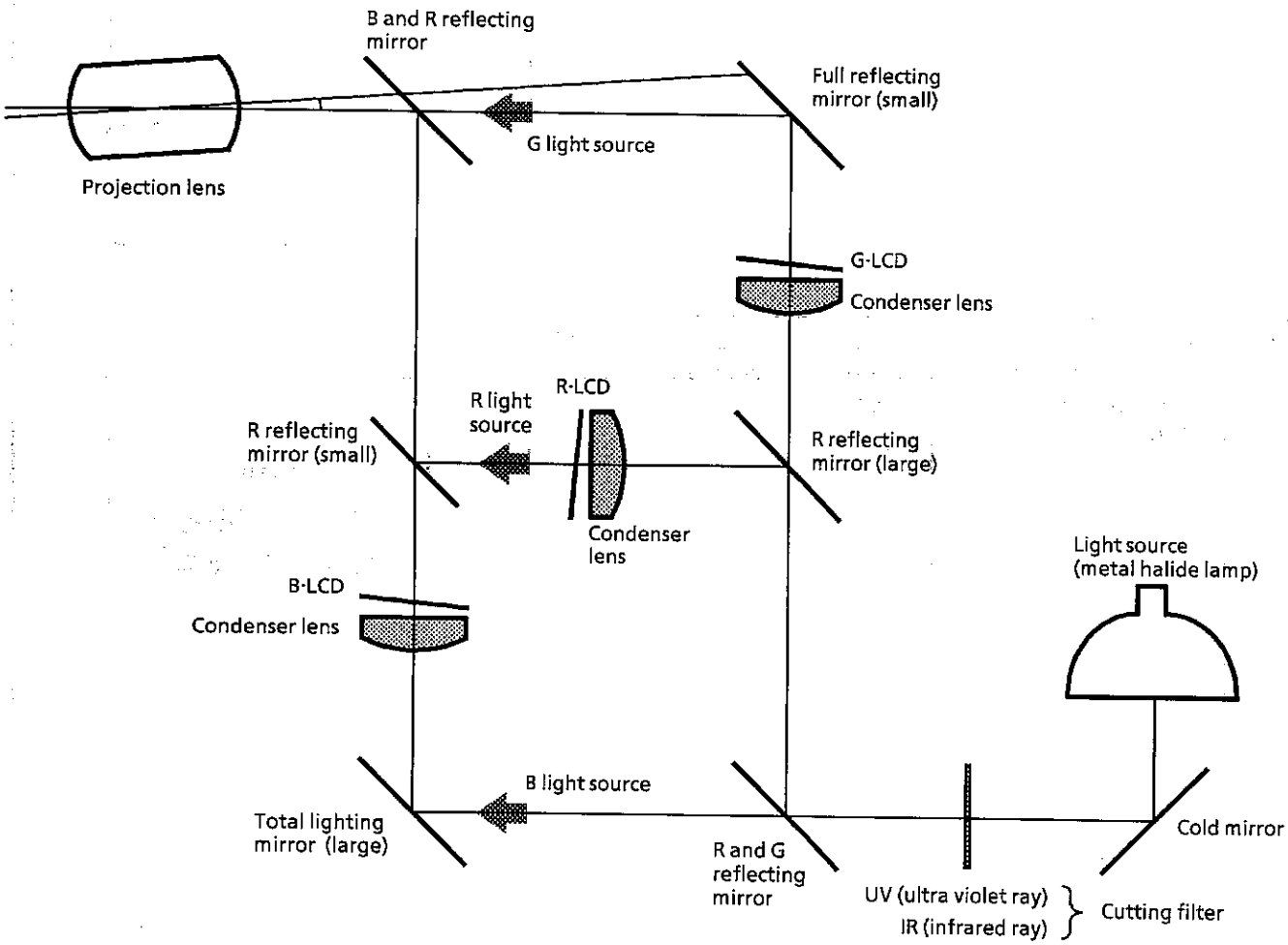
	Item	Adjustment condition	Adjustment procedure
6 7	Tint adjustment -1 R827 Adjustment of color depth R822	1) Input color bar signal through S input terminal. 2) Set the "RESET" mode. (Turn on S2015.) 3) Connect an oscilloscope to TP806 (pin 22 of IC801) and observe B-Y waveform.	Turn R827 to set the waveform below. Turn R822 to adjust the amplitude of waveform at 1.1Vp-p ± 0.1Vp-p.
8	Tint adjustment-2 R675	1) Input color bar signal (composite). 2) Set the "RESET" mode. (pin 22 of IC801) 3) Conneact an oscilloscope to TP806 (pin 22 of IC801).	Turn R675 to adjust the same as tint adjustment-1.
9	AGC adjustment R1603	1) Input color bar signal. 2) Connect an oscilloscope to TP51 (pin 7 of IC1601).	Adjust DC level in pedestal part of Y signal waveform at DC2.2V ± 0.05V with R1603. 
10	Video adjustment R855 (pedestal) R857 (contrast) R2820	1) Input color bar signal. 2) Connect an oscilloscope to TP1 (pin 5 of DI connector).	1) Turn R855 to adjust pedestal level of waveform at 4V ± 0.1V. 2) Turn R857 to adjust video amplitude (pedestal-white) at 1.3Vp-p. 3) Turn R2820 to adjust white clip level at 5V ± 0.1V. 4) Turn R857 to adjust sync-white level at 1.1Vp-p ± 0.05Vp-p. 
11	Clip level R1532 R1534	1) Connect an oscilloscope to TP4 (pin 5 of SB connector). (G-OUT) 2) Turn R1414 to adjust SYNC-SYNC at 8V ± 0.2V. Turn R1532 and R1534 to adjust so that upper and lower clip level is 3.7 + 0, − 0.1V respectively off the center of output waveform.	Turn R1532 to adjust clip level of upper waveform at 3.7 + 0, − 0.1V. Also adjust clip level of lower waveform at 3.7 + 0, − 1V with R1534. Adjust so that upper and lower waveforms are equally in contact with the limit line, and set total clip level at 7.4 + 0, − 2Vp-p. Then return R1414 approxjmately to the center. 

	Item	Adjustment condition	Adjustment procedure
12	Sub bright R2178 Sub contrast R1472 Gamma position R1426 Gamma gain R1424	1) Input 10 gradation (color off) signal. 2) Set the "RESET" mode.	1) Set R1426 at maximum. 2) Connect a digital voltmeter to TP53 (pin 47 of IC1401). 3) Adjust digital voltmeter value at DC3.5V ± 0.1V with R1424. 4) Connect an oscilloscope to TP4 (SB connector pin 5). 5) Adjust the amplitude of pedestal-white at 2.6V with R1472. At this time, lower part of waveform must not be in contact with the limit line. If it is in contact, correct with R1414. 6) By turning R1426, adjust with R2178 so that the second gradation of waveform does not change. 7) Adjust to the waveform below with R1426 and R1424. 8) When adjustment is over, remove signal measurement device. 
13	Adjustment of brightness (R, G, B interlock sub bias) R1414	1) Input monoscope signal. 2) Place a light shielding plate in R and B LCD panel to obtain single G color.	 Adjust with R1414 at a point where the second gradation of monoscope pattern is darkened.
14	White balance-(1) R1435 R1421	Connect an oscilloscope to SB1 (TP2) and SB5 (TP4) of connector (conversion) and provide an waveform of ADD (addition) mode.	Turn R1435 and R1421 to adjust waveform at minimum.
15	White balance-(2) R1417 R1437	Connect an oscilloscope to SB3 (TP3) and SB5 (TP4) of connector (conversion) and provide an waveform of ADD (addition) mode.	Turn R1417 and R1437 to adjust waveform at minimum.

	Item	Adjustment condition	Adjustment procedure
16	H-CENTER R1001	1) Input monoscope signal.	Adjust to provide overscan equal on both sides of the screen. 
17	Sign position adjustment of on screen display T2001	Press S2008 focus sign SW key to provide focus sign on the screen.	 Adjust with T2001 so that A = B

OPTICAL SYSTEM ADJUSTMENT

Base of Optical System Adjustment



1. Optical axis alignment

R: Light source → R.G reflecting mirror → R reflecting mirror (large) → R reflecting mirror (small) → B.R. reflecting mirror → Projection lens

B: Light source → Full reflecting mirror (large) → B.R. reflecting mirror → Projection lens

G: Light source → R.G. reflecting mirror → Full reflecting mirror (small) → Projection lens

As shown in the figure, optical axis alignment is to adjust the angle of each color reflecting mirror. The light is a parallel ray after passing through the condenser lens. Therefore, the mirror after condenser lens requires high precision, and a small mirror is adopted in construction to meet the condition. Here, G ray is used as a basis.

2. LCD parallelism setting

R: R.LCD unit → R reflecting mirror (small) → B.R.reflecting mirror → Projection lens

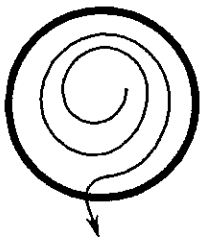
G: G.LCD unit → Full reflecting mirror (small) → Projection lens

B: B.LCD unit → B.R. reflecting mirror → Projection lens

Distance from projection lens is important since it gives influence on screen angle and focus. Here, if parallelism setting only is to be adjusted, every mirror is already adjusted in optical axis alignment, therefore LCD unit is to be solely adjusted for each color.

Cleaner of Lens and Mirror

1. Lens cleaner



※ Cleaner liquid
It should consist of alcohol and ether, Change mixing ratio according to the temperature. As a standard, cleaner should dry as soon as it is applied. It dries up sooner when it contains more ether.

※ Cleaner procedure
Bleached cotton washed is recommended. Commercial cleaner paper is also recommended. Hold the lens between forefinger and thumb using bleached cotton moistned with liquid, and bring the dust from the center to the periphery as turning the lens, and soop out at the edge. Do not hold coated face strongly.

2. Cleaner of mirror

A mirror is evaporized, therefore do not hold strongly. Little dirt should be dissolved with alcohol and wiped with a dry cloth. Do not use ether mixed liquid.

3. Point

Larger influence by contamination is given to both sides of LCD unit screen and LCD side of condenser lens, therefore such faces require fine attention.

Adjustment after replacement of LCD (Liquid Crystal Panel)

LCD deflection plate adjustment

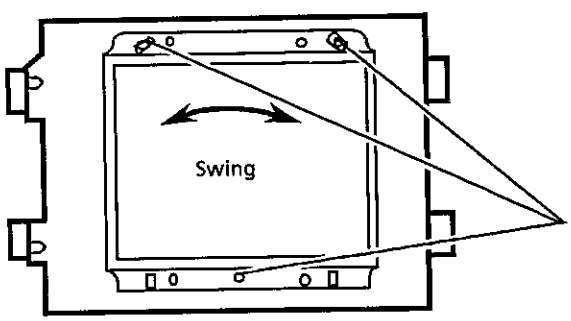
1. Tool and instrument required

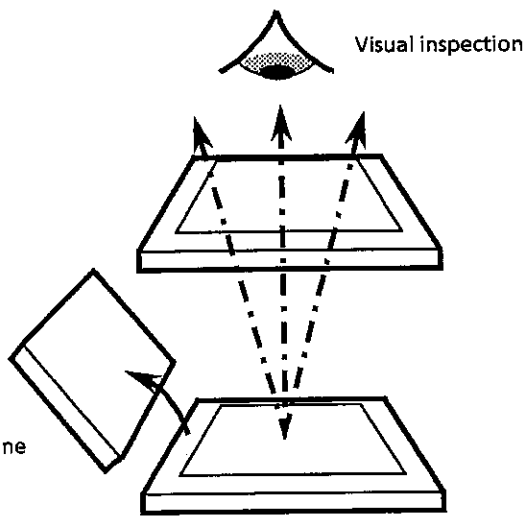
1) Pattern generator.
2) Plane light source (example: Backlight section of liquid crystal TV)

2. Adjustment position

3. Adjustment procedure

1) Operate the body and input a black signal in video input.
2) Loosen three machine screws for the deflection plate.





Search for the position of eyes where the light is darkest, and fix there. Then apply the following adjustment.

3) Apply light source and swing the deflection plate to right and left and fix in the darkest position.
4) Tighten up the screws.

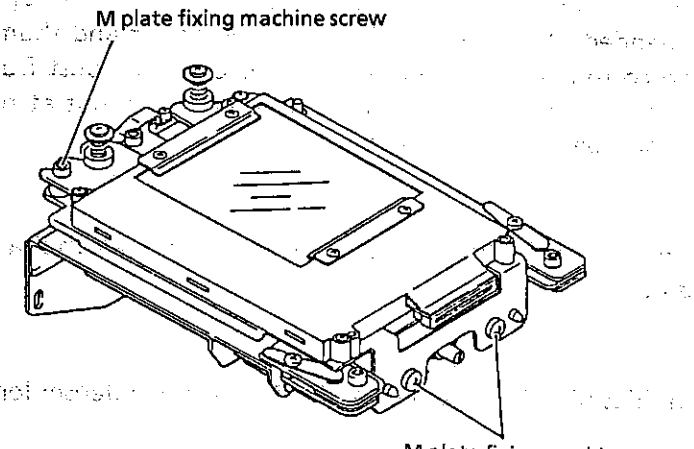
X and Y adjustment

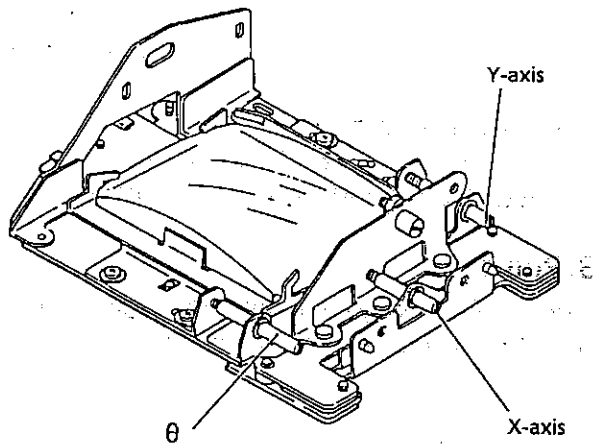
1. Tools

1) Light shielding plate (hard proccssed thick paper to shield light source)
2) Standard lens

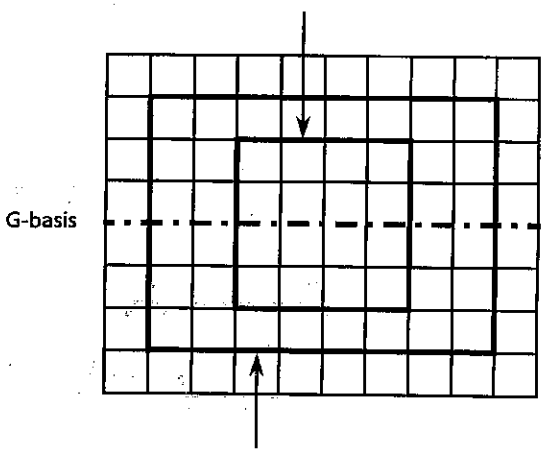
Adjustment principle

Upper and lower position of R and B picture is adjusted on the basis of G. Construction is shown below, where LCD receiver moves in X and Y direction independent of the base.





Complete accordance is required up to the central second block.



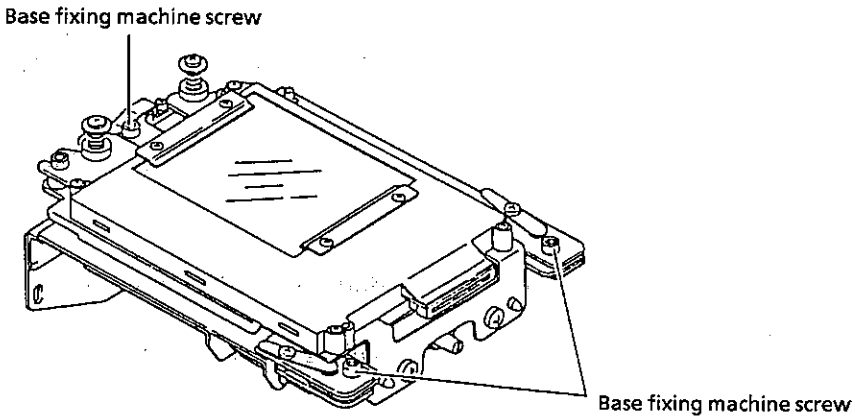
Outer peripheral line should not be off for every color.

2. Adjusting points

1) Apply R and B upon G on its basis.
2) Projection pattern up to central second block must accord completely.
3) Outer peripheral line should not be off for every color.

Preparation before adjustment

1) Loosen three hexagonal machine screws in total on both sides of LCD unit base.
2) Input grid signal in video input.



3. Adjustment

R-G alignment

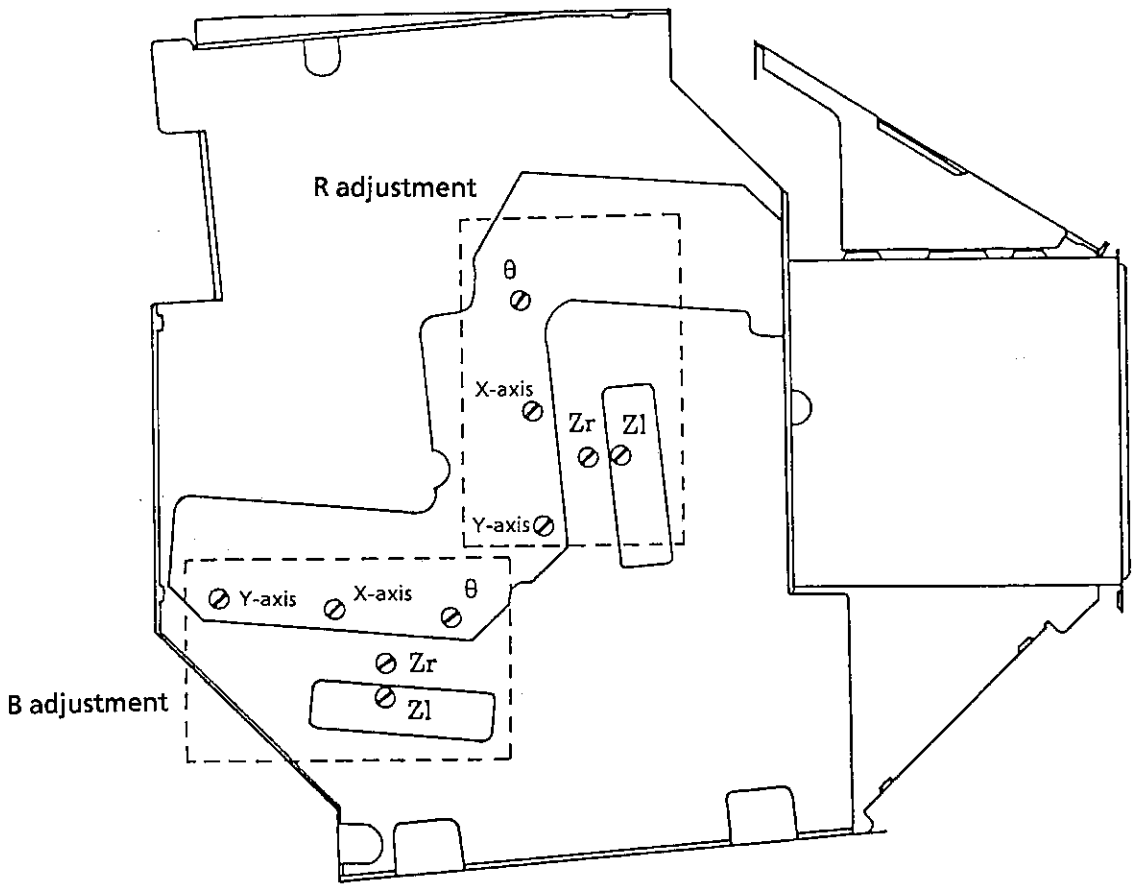
1) Place a light shielding plate in B-LCD part.
(B light source cut out)
Apply R block upon G block. Adjust X axis in horizontal direction. Adjust Y axis in vertical direction.

Adjust inclination by θ

B-G alignment

1) Place a light shielding plate in R-LCD part.
(B light source cut out)
Apply B block upon G block. Adjust X axis in horizontal direction. Adjust Y axis in vertical direction.

Adjust inclination by θ



RED and BLUE

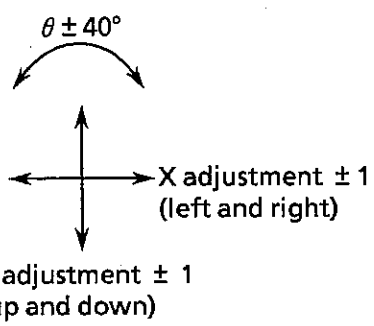
Rotation	Clockwise	Counter-clockwise
X-axis	Shift to the left	Shift to the right

RED

Rotation	Clockwise	Counter-clockwise
Y-axis	Down	Up

BLUE

Rotation	Clockwise	Counter-clockwise
Y-axis	Up	Down



RED

Rotation	Clockwise	Counter-clockwise
θ		

BLUE

Rotation	Clockwise	Counter-clockwise
θ		

GREEN: Fixed

HINWEISE FÜR DEN WARTUNGSTEHNIKER

VORSICHTSMASSNAHMEN GEGEN UV-STRAHLUNG

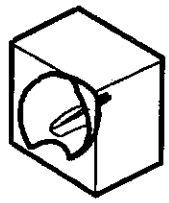
Die Lichtquelle (Metallhalogenidlampe) im LCD-Projektor erzeugt geringe Anteile von UV-Strahlung.

DIREKTEN AUGEN- UND HAUTKONTAKT VERMEIDEN.

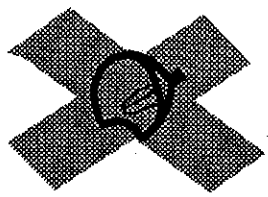
Folgende Sicherheitshinweise sind zu befolgen:

1. Bei der Wartung des Geräts muß bei eingeschalteter Lampe eine Sonnenschutzbrille getragen werdne. Der obere Deckel ist bei der Wartung zu enyfernen.

2. Die Lampe darf nicht außerhalb des Lampengehäuses verwendet werden.



3. Bei entferntem oberen Deckel nicht läanger als 2 Stunden betreiben.

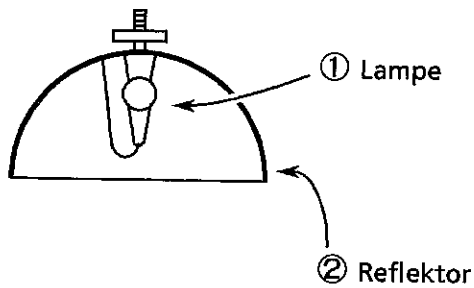


Vorsichtsmaßnahmen bezüglich UV-Strahlung und Mitteldrucklampen

1. Vor dem Auswechseln der Lampe unbedingt den Netzstecker ziehen.
2. Das Gerät vor dem Durchführen von Wartungsarbeiten eine Stunde abkühlen lassen.
3. Nur gegen eine Lampe der gleichen Sorte auswechseln. Sorte **MSFR150S9**, 80 V / 150 W.
4. Da die Lampe eine geringe UV-Strahlung aufweiat, sollte direkter Blickkontakt vermieden werden.
5. Die Mitteldrucklampe weist ein Explosionsrisiko auf. Die nachstehenden Einbauanweisungen beachten und die
   Lampe vorsichtig handhaben.

■ Auswechseln der Lampe

Hinweis:
Da die Lampe während des Betriebs extrem heiß wird, solltdas Auswechseln erst eine Stunde nach dem Ausschalten stattfinden (abkühlzeit).
Beim Anbringen der neuen Lampe die Birne unbedingt nicht berühen. Den Reflektor ② der Lampe beim Auswechseln halten.
[Mit dem gleichen Lampentyp ersetzen.]



GEFAHR! — Niemals die Spannungsversorgung ohne Lampe einschalten, um elektrische Schläge und Schäden des Gerätes zu vermeiden, da der Stabilisator beim Einschalten hohe Spannungen erzeugt.

Lage der Bedienelemente

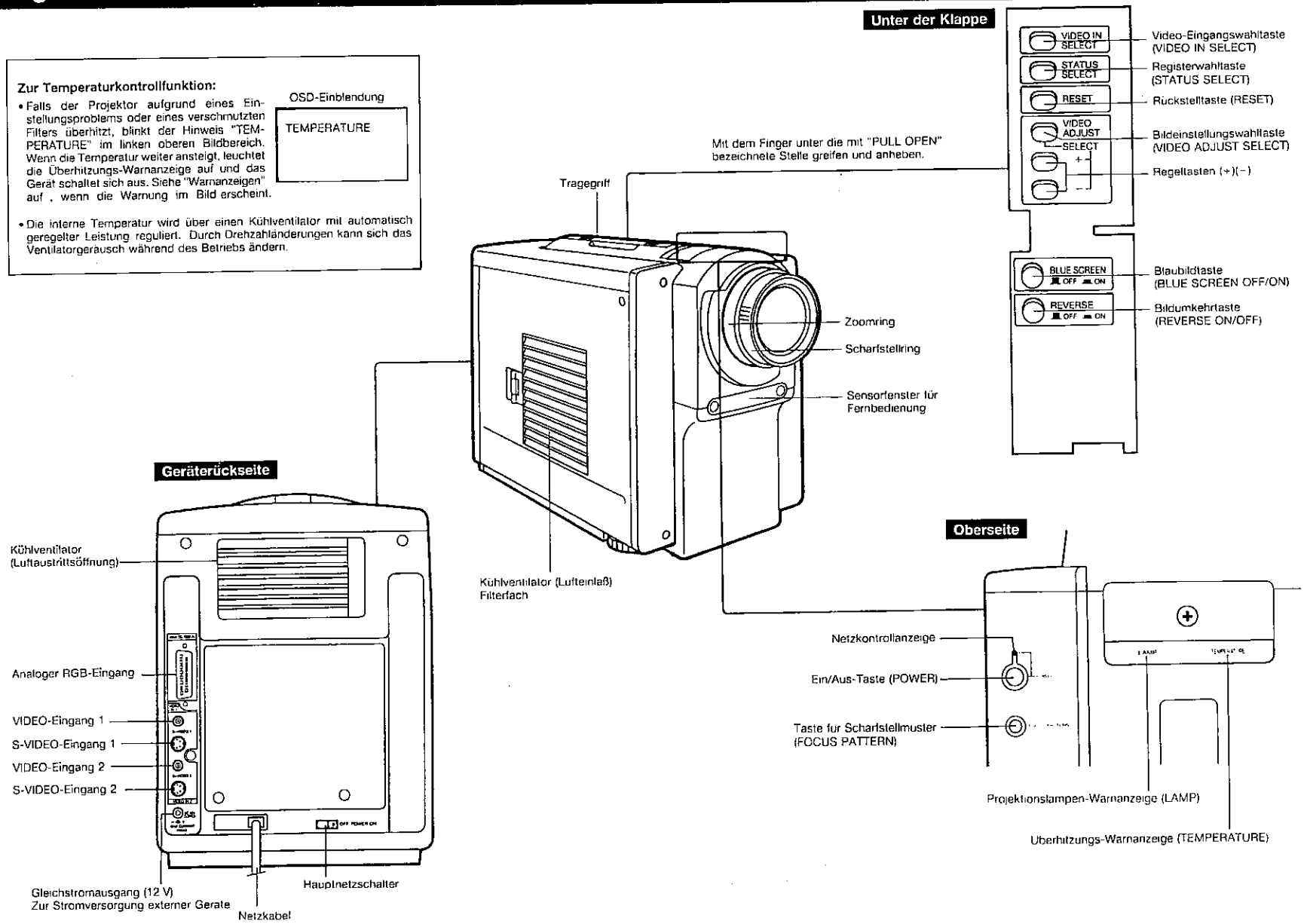
Zur Temperaturkontrollfunktion:

- Falls der Projektor aufgrund eines Einstellungsproblems oder eines verschmutzten Filters überhitzt, blinkt der Hinweis "TEMPERATURE" im linken oberen Bildbereich. Wenn die Temperatur weiter ansteigt, leuchtet die Überhitzungs-Warnanzeige auf und das Gerät schaltet sich aus. Siehe "Warnanzeigen" auf , wenn die Warnung im Bild erscheint.

OSD-Einblendung

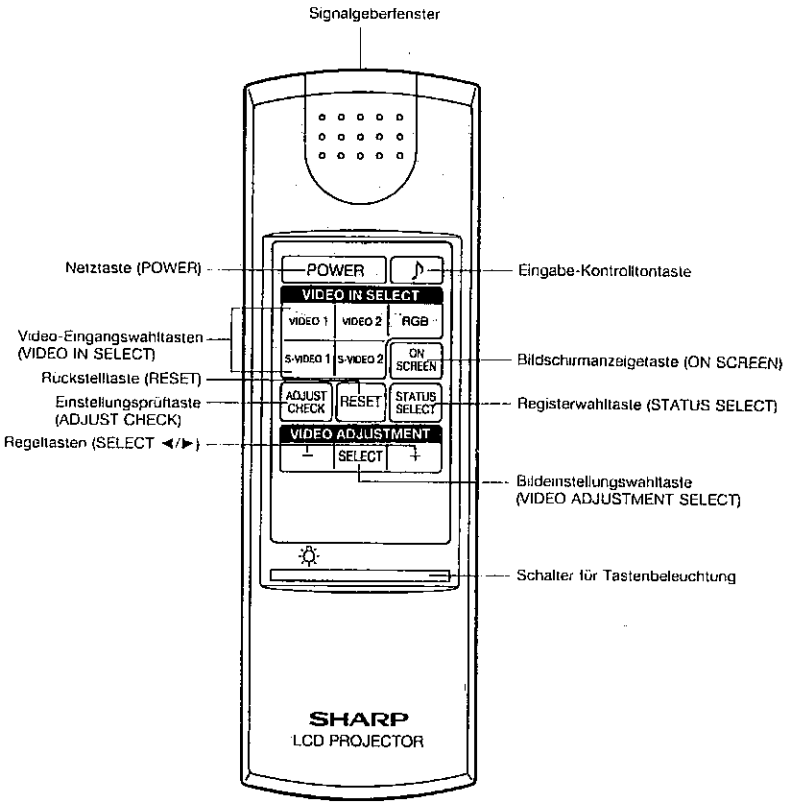
TEMPERATURE

- Die interne Temperatur wird über einen Kühlventilator mit automatisch geregelter Leistung reguliert. Durch Drehzahländerungen kann sich das Ventilatorgerausch während des Betriebs ändern.



Lage der Bedienelemente

Fernbedienung



Aufbau des Projektors

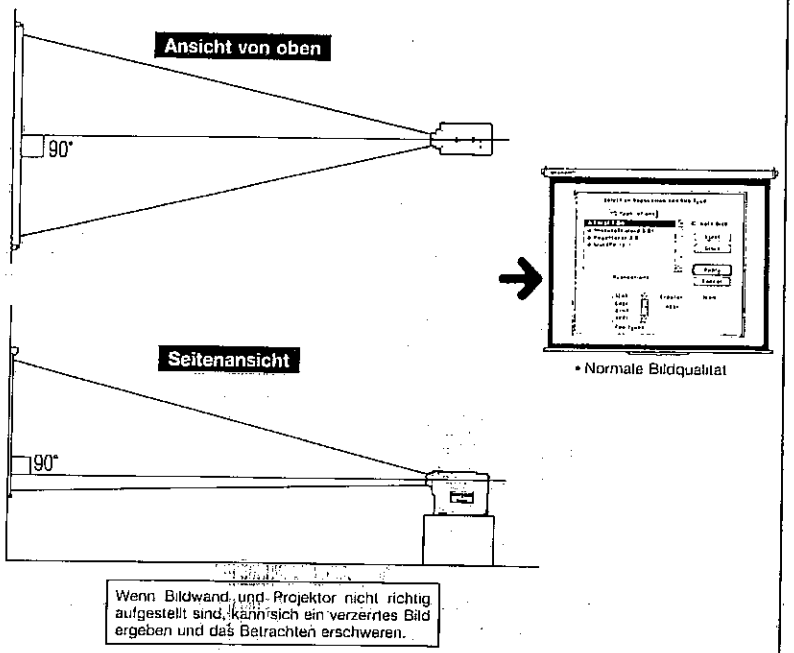
Aufstellen von Projektor und Bildwand

Vorsichtsmaßnahmen beim Aufstellen des Projektors

- Den Projektor nicht an feuchten oder staubigen Orten aufstellen. Orte vermeiden, an denen er starkem Zigarettenrauch oder Ruß ausgesetzt ist. Wenn das Objektiv, der Spiegel oder andere optische Bauteile verschmutzt sind, kann dies ein verschwommenes oder dunkles Bild verursachen und das Betrachten erschweren.
- Den Projektor nicht übermäßiger Hitze oder Kälte aussetzen.
  Betriebstemperatur: 5°C–40°C
  Lagertemperatur: –20°C–55°C

Beispiel für die Aufstellung

- Die Bildwand so aufstellen, daß sie nicht direktem Sonnenlicht oder der Zimmerbeleuchtung ausgesetzt ist. Direkt auf die Bildwand fallendes Licht läßt die Farben blasser werden und erschwert das Betrachten. Die Vorhänge schließen und die Beleuchtung dämpfen, wenn die Bildwand in einem hellen Raum verwendet wird.
- Den Projektor in einem Winkel von 90° zur Bildwand aufstellen, um eine optimale Bildqualität zu erzielen. Projektor und Bildwand wie gezeigt aufeinander ausrichten.



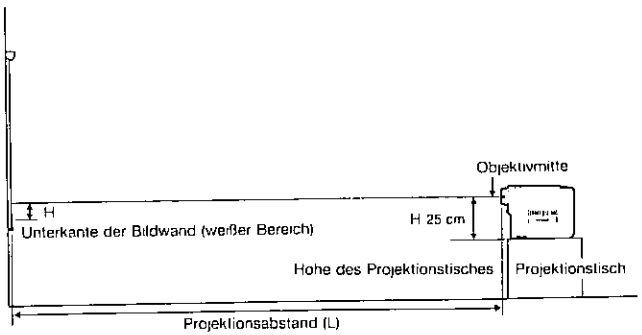
Wenn Bildwand und Projektor nicht richtig aufgestellt sind, kann sich ein verzerrtes Bild ergeben und das Betrachten erschweren.

Aufbau des Projektors

■ Der Projektor ist mit einem 2-fach Zoom-Objektiv ausgestattet, mit dem die Bildgröße bei unverändertem Abstand verdoppelt werden kann.
(Beispiel: Bei 3,8 m Projektionsabstand läßt sich ein bei maximaler Vergrößerung 100" (254 cm) großes Bild mit dem Zoom auf 50" (127 cm) verkleinern.)
■ Das Bild kann in einer Entfernung von 1,6 bis 7,4 m von der Bildwand scharf eingestellt werden. Der Abstand zur Bildwand sollte innerhalb dieses Bereiches liegen.

Bildgröße (diagonal)	Projektionsabstand (L)		Abstand zwischen Objektivmitte und Bildwand-Unterkante (H)
	Mindest-Projektionsabstand	Maximaler Projektionsabstand	
150" (381 cm)	5,6 m	7,4 m	47 cm
100" (254 cm)	3,8 m	7,4 m	31 cm
80" (203 cm)	3,1 m	6,2 m	25 cm
60" (152 cm)	2,3 m	4,7 m	19 cm
40" (102 cm)	1,6 m	3,2 m	12 cm

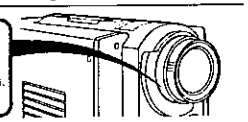
- Versuchen Sie, den Projektor etwas nach hinten zu verschieben, wenn sich beim Mindest-Projektionsabstand Verzerrungen in den Bildecken ergeben.
- Das Bild kann bis zu einem maximalen Abstand von 7,4 m von der Bildwand scharf eingestellt werden. Es ist daher nicht möglich, Bildgrößen von 150" (381 cm) oder 100" (254 cm) mit der niedrigsten Vergrößerung zu projizieren.



■ Nach dem Aufstellen des Projektors wie gezeigt die Bildgröße und Bildschärfe einstellen.

1 Einstellung der Bildgröße

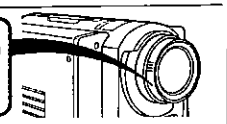
Die Bildgröße durch Drehen des Zoomrings einstellen.



■ Wenn es die Platzverhältnisse nicht erlauben, den erforderlichen Projektionsabstand einzuhalten, kann die gewünschte Bildgröße innerhalb des Vergrößerungsbereichs des Zooms mit dem Zoomring eingestellt werden.

2 Scharfstellung

Das Bild durch Drehen des Scharfstellrings scharf einstellen.

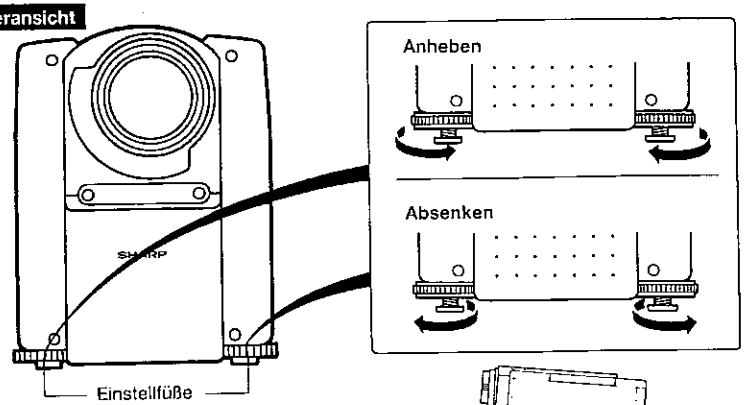


■ Das Objektiv so einstellen, daß das Bild auf der Bildwand so scharf wie möglich ist.
■ Für eine genaue Einstellung das Muster zum Scharfstellen verwenden (siehe S. 24).

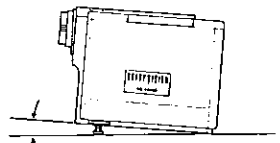
Nivellieren und Höheneinstellung

■ Bei zu geringem Abstand zwischen Objektivmitte und Bildwandunterkante kann die Bildhöhe mit den Einstellfüßen des Projektors angepaßt werden.

Vorderansicht



Hinweis:
Wenn das Bild durch Verstellen der Einstellfüße nach oben verschoben wird, ergibt sich ein geringfügig trapezförmig verzerrtes Bild, da die Projektion nicht genau im Winkel von 90°C zur Bildwand erfolgt.

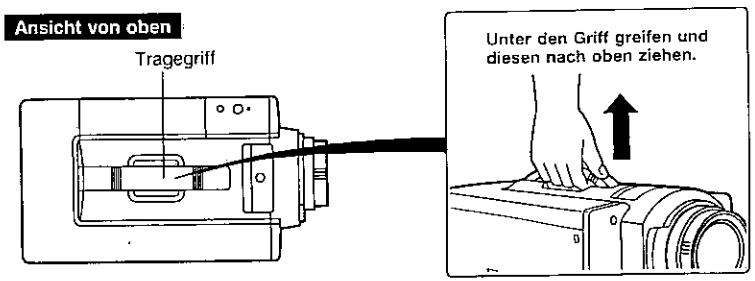


Der Einstellbereich beträgt ca. 5°.

Transport des Projektors

■ Zum Transportieren des Projektors den Tragegriff verwenden.

Ansicht von oben



Hinweis:
Vor dem Transportieren die Objektivkappe anbringen, um das Objektiv zu schützen.

Anschluß an die Anlage

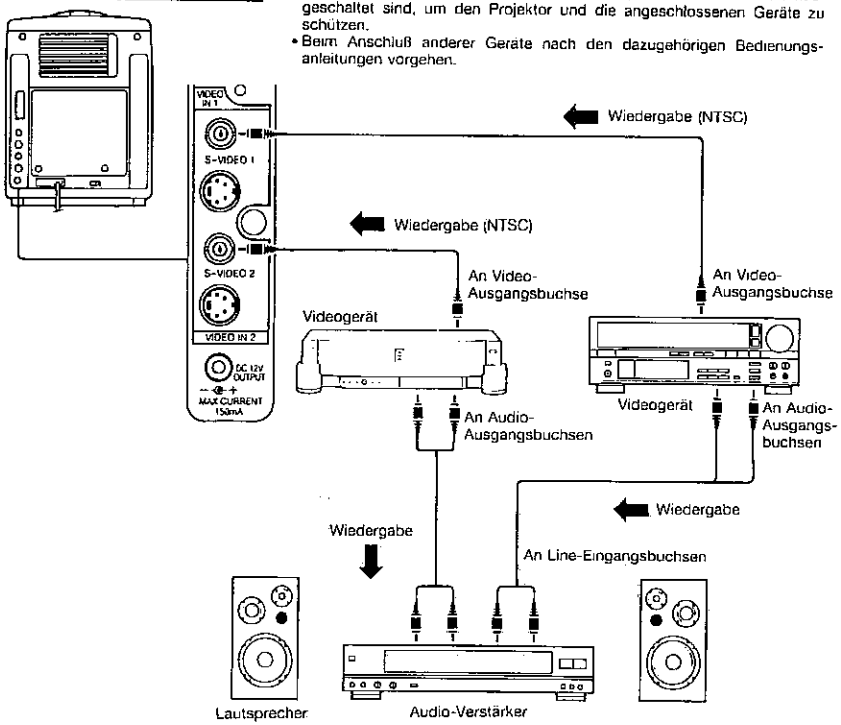
SYSTEM 1

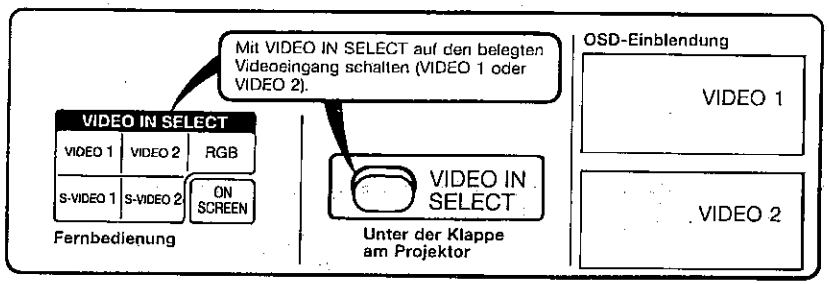
Für Videoprojektion mit Tonwiedergabe über Video (NTSC)-und Audioanlagen (Audio-Verstärker).

Hinweise:

- Bei Vornahme der Anschlüsse darauf achten, daß die Netzschalter ausgeschaltet sind, um den Projektor und die angeschlossenen Geräte zu schützen.
- Beim Anschluß anderer Geräte nach den dazugehörigen Bedienungsanleitungen vorgehen.

Rückseitiges Anschlußfeld

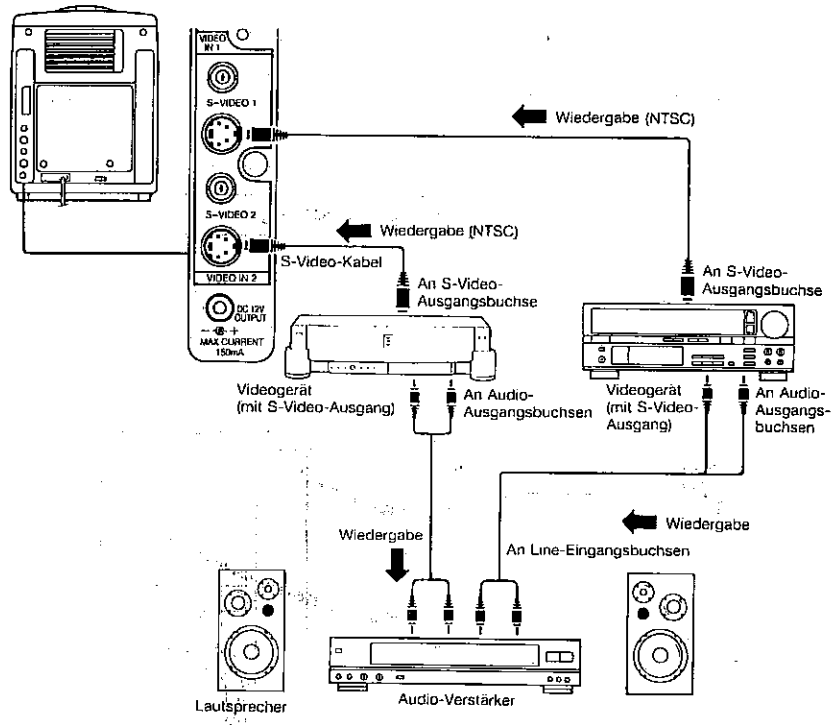


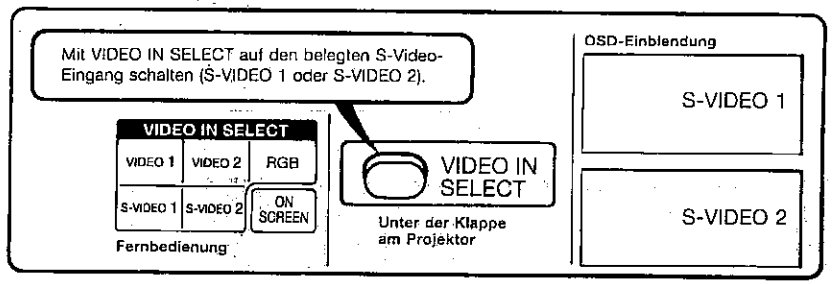


SYSTEM 2

Für S-Video-Projektion mit Tonwiedergabe über Video (NTSC)-und Audioanlagen (Audio-Verstärker).

Rückseitiges Anschlußfeld





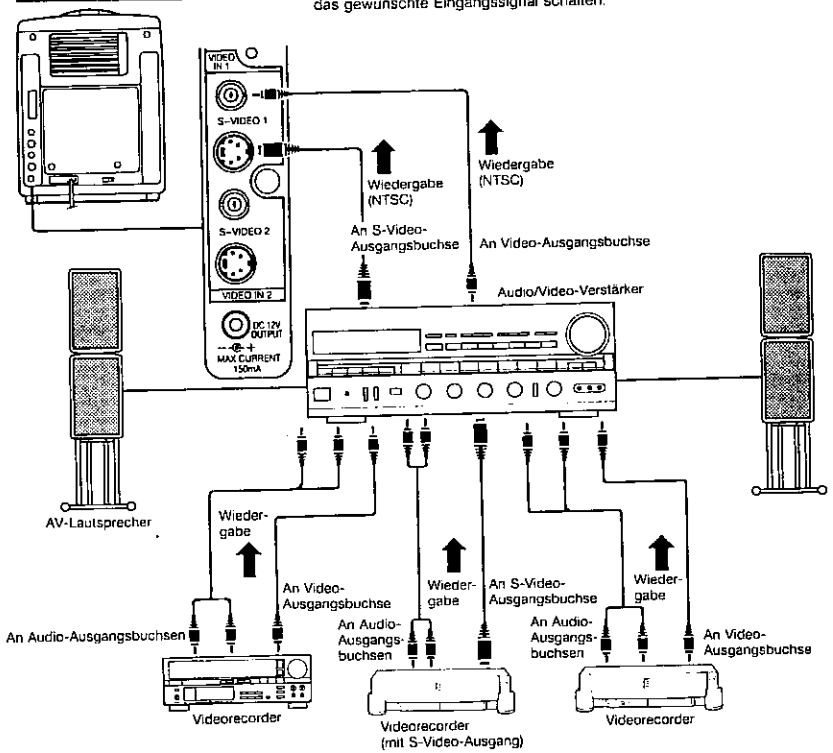
Anschluß an die Anlage

SYSTEM 3

Für Video- und S-Video-Projektion mit Tonwiedergabe über Video (NTSC)-und Audioanlagen (Audio/Video-Verstärker).

- Die Videogeräte mit S-Video-Ausgang wie z.B. S-VHS-Videorecorder und weitere Videogeräte über den Audio/Video-Verstärker mit den Eingangsbuchsen S-VIDEO-1 und VIDEO-1 des Projektors verbinden.
- Mit der Fernbedienung oder der Video-Eingangswahltaste am Projektor auf das gewünschte Eingangssignal schalten.

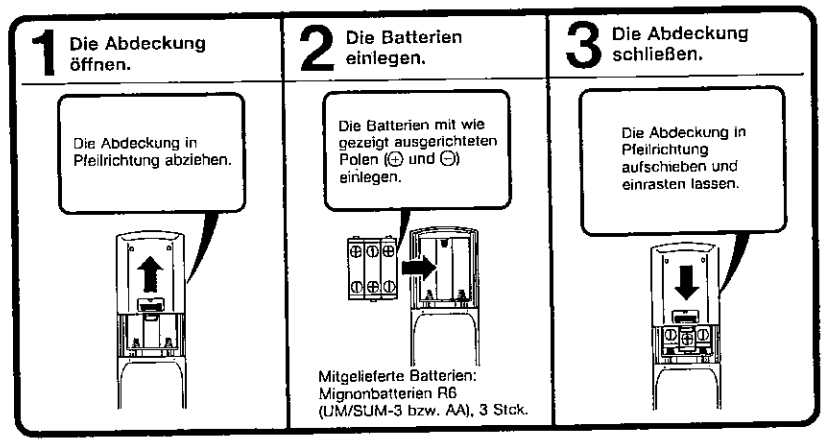
Rückseitiges Anschlußfeld



Benutzung der Fernbedienung

Einlegen der Batterien

Um die Fernbedienung benutzen zu können, sind zuvor die als Zubehör mitgelieferten Batterien einzulegen.


1 Die Abdeckung öffnen.
Die Abdeckung in Pfeilrichtung abziehen.
2 Die Batterien einlegen.
Die Batterien mit wie gezeigt ausgerichteten Polen (⊕ und ⊖) einlegen.
Mitgelieferte Batterien:
Mignonbatterien R6
(UM/SUM-3 bzw. AA), 3 Stck.
3 Die Abdeckung schließen.
Die Abdeckung in Pfeilrichtung aufschieben und einrasten lassen.

Über die Batterien

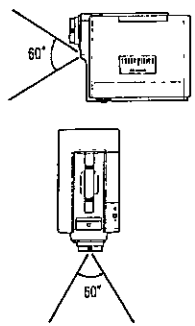
Falsche Behandlung der Batterien kann zu Explosion oder zum Austreten der Batterieflüssigkeit führen.

- Sicherstellen, daß die Plus- und Minuspole der Batterien wie angegeben ausgerichtet sind.
- Die Batterien entnehmen, wenn die Fernbedienung über längere Zeit nicht benutzt wird, und an einem kühlen und trockenen Platz aufbewahren.
- Unterschiedliche Batterietypen haben unterschiedliche Eigenschaften und sollten nicht zusammen verwendet werden.
- Alte Batterien nicht zusammen mit neuen verwenden, da dies die Lebensdauer der neuen Batterien verkürzen würde. Auch besteht die Gefahr des Auslaufens von Batterieflüssigkeit.
- Verbrauchte Batterien entnehmen, da Batterieflüssigkeit auslaufen könnte. Ausgelaufene Flüssigkeit mit einem trockenen Tuch entfernen. Die ausgelaufene Flüssigkeit nicht berühren, da dies zu Hautreizungen führen kann.
- Die Lebensdauer der Batterien kann je nach Bedingungen und Dauer ihrer Lagerung unterschiedlich sein. Verbrauchte Batterien frühzeitig ersetzen.

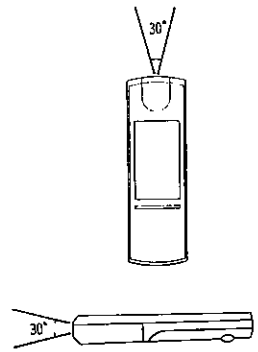
Benutzung der Fernbedienung

■ Die Fernbedienung wie in den Abbildungen gezeigt verwenden.

Empfangsbereich



Übertragungsbereich



Anschluß an die Anlage (RGB-Video)

Zur Beachtung:

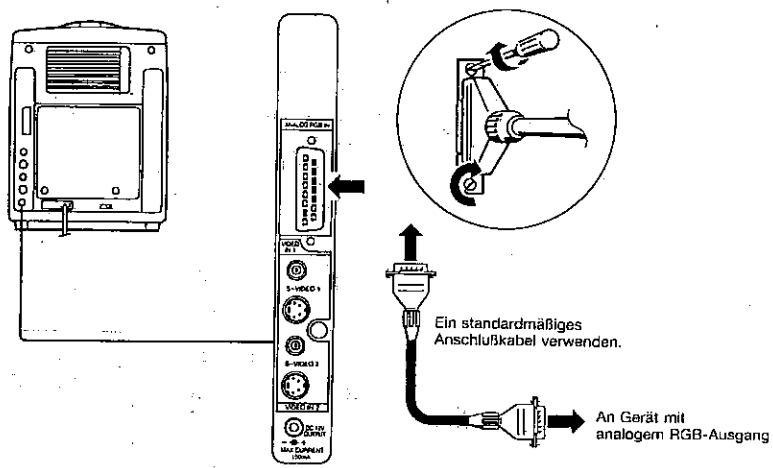
- Der RGB-Eingang ist für analoge RGB-Signale (15,75 kHz S-Gemisch) bestimmt. Er ist für digitale RGB-Signale nicht geeignet. Zum Einspeisen von CGA-Computern und anderen Signalquellen mit digitalem RGB-Ausgang ist die Verwendung eines TTL/Analog-Wandlers erforderlich.
- Dieser Projektor ist kein Multi-System-Gerät. Er arbeitet nur mit NTSC S-Gemisch mit 15,75 kHz.
- Näheres zur Eignung von RGB-Signalen finden Sie in den technischen Daten auf der nächsten Seite.
- Vor dem Anschluß von Computern und anderen RGB-Geräten bitte anhand der nachstehenden Tabelle die Eignung der Stiftbelegung des 15-pol-Verbinders prüfen.
- Der analoge RGB-Eingang erfordert ein 15,75 kHz-S-Signalgemisch (negative Polarität). Für den Betrieb mit Signalen mit von 15,75 kHz abweichender Abtastgeschwindigkeit (z.B. VGA- und Macintosh II-Computer-Graphikkarten) kann ein Abtastungswandler oder eine RGB/Video-Schnittstelle erforderlich sein.
- In den analogen RGB-Eingang eingespeiste Signale werden auf ein Bild mit 320 Punkten × 200 Linien komprimiert.
- Für Einzelheiten zu Schnittstellen-Adaptern und Kabeln wenden Sie sich bitte an Ihren SHARP-Händler.

RGB-Eingangssignal

Videosignal	Getrennte RGB-Komponenten	0–0,7 Vs-s	Positive Polarität
S-Signalgemisch		TTL-Pegel	Negative Polarität

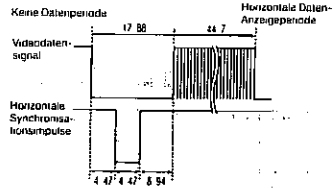
Rückseite

Rückseitiger Anschluß

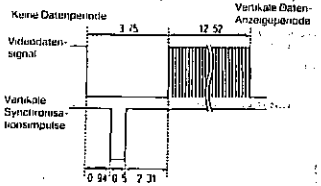


Videosignal-Ablaufdiagramm (typisches Beispiel)

a) Zeitfolge von Videosignal und horizontalen Synchronisationsimpulsen (Einheit: ms)

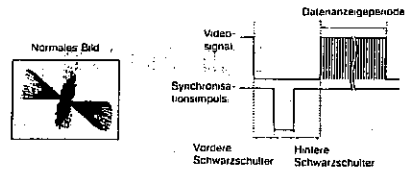


b) Zeitfolge von Videosignal und vertikalen Synchronisationsimpulsen (Einheit: ms)



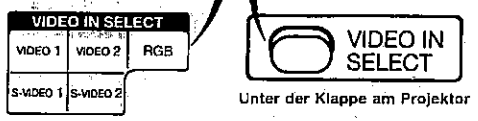
Über analoge RGB-Eingangssignale

Wenn andere als die empfohlenen Signale eingespeist werden, können sich durch Synchronisationsfehler etc. die in der nachstehenden Tabelle aufgeführten Bildverzerrungen ergeben. Dies stellt keine Störung des Projektors dar.



	Problem	Verzerrung	Ursache
A	Horizontal überdehntes oder komprimiertes Bild		Horizontale Datenanzeigeperiode über- oder unterschreitet den empfohlenen Wert
B	Bild gegen den linken Rand verschoben		Horizontale hintere oder vordere Schwarzschulterperiode weicht vom empfohlenen Wert ab.
C	Bild vertikal gedehnt oder komprimiert		Vertikale Datenanzeigeperiode länger oder kürzer als der empfohlene Wert.
D	Bild gegen den oberen oder unteren Rand verschoben		Vertikale hintere oder vordere Schwarzschulterperiode weicht vom empfohlenen Wert ab
E	Streifenbildung		Horizontale Synchronisations-frequenz liegt nicht innerhalb des empfohlenen Bereichs
F	Vertikal durch-laufendes Bild		Vertikale Synchronisationsfrequenz liegt nicht innerhalb des empfohlenen Bereichs

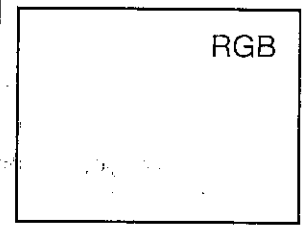
Mit VIDEO IN SELECT auf den Eingang für die gewünschte Signalquelle schalten (RGB, S-VIDEO oder VIDEO).

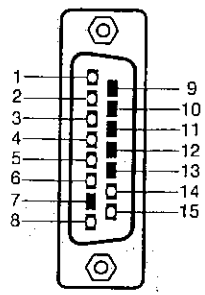


Fernbedienung

Unter der Klappe am Projektor

OSD-Einblendung
(Beispiel: Bei Wahl von RGB)





Analoger RGB-Video-Eingang

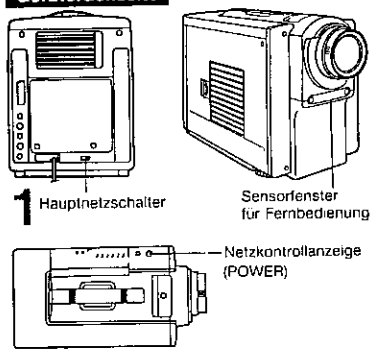
Der Sockel des analogen RGB-Videoeingangs ist für 15-pol D-Sub-Stecker geeignet. Dabei ist folgende Stiftbelegung erforderlich:

1. Rot	7. —	13. —
2. Erde	8. Erde	14. S-Gemisch oder horizontale Synchronisation
3. Grün	9. —	
4. Erde	10. —	
5. Blau	11. —	15. Vertikale Synchronisation
6. Erde	12. —	

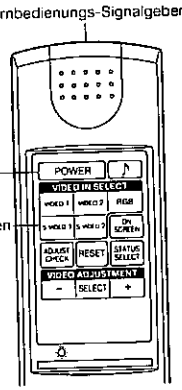
Hinweis: Die Stifte 7, 9, 10, 11, 12 und 13 sind nicht mit der Projektorseite verbunden.

Grundlegende Bedienung (Fernbedienung)

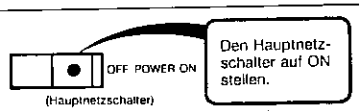
Geräterückseite



Fernbedienung

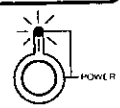


1 Gerät einschalten.



Den Hauptnetzschalter auf ON stellen.

- Zum ersten Einschalten des Gerats und bei erloschener Netzkontrollanzeige den Hauptnetzschalter auf ON stellen.
- Bei ausgeschaltetem Hauptnetzschalter ist die Netzkontrollanzeige erloschen.



Bei eingeschaltetem Gerat leuchtet die Anzeige rot.

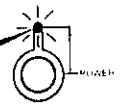
2 Den Projektor einschalten.

Die POWER-Taste drücken.

POWER

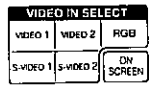
- Nach dem Einschalten des Gerats wechselt die Netzkontrollanzeige von Rot auf Grun. Sie zeigt den Betriebszustand der Projektionslampe an.

Grünes Blinken
··· Aufheizphase
Grün
··· Lampe eingeschaltet



3 Wahl der Signalquelle

Die VIDEO IN SELECT-Taste für den belegten Eingang drücken.



- Auf der Bildwand erscheint das Bild der an den gewählten Signaleingang angeschlossenen Signalquelle.

Der gewählte Eingang wird etwa 4 Sekunden lang rechts oben auf der Bildwand angezeigt.

OSD-Einblendung

VIDEO 1

(Beispiel: Bei Wahl von VIDEO 1)

Hinweise:

- Nach dem Ausschalten des Projektors mit der POWER-Taste lauft der Kühlventilator noch weiter, bis die Innentemperatur ausreichend abgesunken ist (ca. 2 Minuten). Bei noch laufendem Kühlventilator nicht den Netzstecker ziehen.
- Wenn der Projektor unmittelbar nach dem Ausschalten erneut eingeschaltet wird, kann es eine Weile dauern, bis die Lampe sich einschaltet (Während der Wartezeit blinkt die Anzeige grün.)

Bildeinstellungen per Fernbedienung

- Durch Drücken der RESET-Taste werden alle vorgenommenen Bildeinstellungen auf die Werksvoreinstellungen zurückgestellt. Mit den VIDEO ADJUSTMENT-Tasten der Fernbedienung kann das Bild wunschgemäß eingestellt werden.
- Die vorgenommenen Einstellungen können in den Status-Registern 1–5 abgespeichert werden.

Bildeinstellungen

1 Mit der STATUS SELECT-Taste das gewünschte Register wählen.

STATUS SELECT

Mit jedem Drücken der STATUS-Taste schaltet sich das Gerät auf das jeweils nächste Register.

OSD-Einblendung

STATUS 1
[Status-Register 1]
↓
STATUS 2
[Status-Register 2]
↓
STATUS 3
[Status-Register 3]
↓
STATUS 4
[Status-Register 4]
↓
STATUS 5
[Status-Register 5]

2 Mit SELECT und (+)/(–) des VIDEO ADJUSTMENT-Felds die gewünschte Einstellung vornehmen.

VIDEO ADJUSTMENT

– | SELECT | +

Mit jedem Drücken der SELECT-Taste während der OSD-Einblendung schaltet sich das Gerat auf die jeweils nachste Einstellung.

[BILD]
↓
[HELLIGKEIT]
↓
[FARBSTARKE]
↓
[FARBTON]
↓
[BILDSCHARFE]

Mit den Regeltasten (+)/(–) kann das Zeichen " ◆ " verschoben werden.

OSD-Einblendung

STATUS 1 – 0 + PICTURE (BILD)
Weniger Mehr

STATUS 1 – 0 + BRIGHT (HELLIGKEIT)
Dunkler Heller

STATUS 1 – 0 + COLOR (FARBSTARKE)
Weniger Mehr

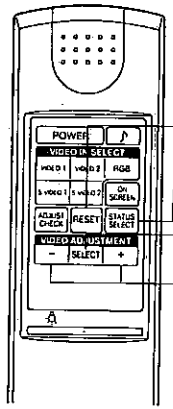
STATUS 1 – 0 + TINT (FARBTON)
Gegen Purpur Gegen Grun

STATUS 1 – 0 + SHARPNESS (BILDSCHARFE)
Weicher Harter

Hinweis:

- Alle STATUS-Register werden im Werk vor Auslieferung auf die Normaleinstellungen gestellt.

Fernbedienung



Rückstelltaste (RESET)

1 Registerwahltaste (STATUS)

2 Bildeinstellungswahltaste (VIDEO ADJUSTMENT SELECT)

2 Regeltasten (+)(−)

Rückstellen auf die Werksvoreinstellungen

Die RESET-Taste drücken.

RESET

■ Schaltet das Gerat auf die im Werk voreingestellte Normaleinstellung zurück.

OSD-Einblendung

RESET

Abrufen gespeicherter Einstellungen

Mit der STATUS SELECT-Taste auf das gewünschte Register schalten.

STATUS SELECT

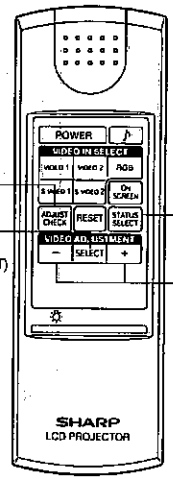
■ Auf dem Bildschirm erscheint der Name des Registers und das Bild wird automatisch gemaß der dort gespeicherten Einstellungen geregelt.

OSD-Einblendung

STATUS 2

(Beispiel: Bei Wahl von Register "STATUS 2")

Fernbedienung



Einstellungsprüftaste (ADJUST CHECK)

2 Bildeinstellungs-wahltaste (VIDEO ADJUSTMENT SELECT)

1 Registerwahltaste (STATUS SELECT)

2 Regeltasten (+)(−)

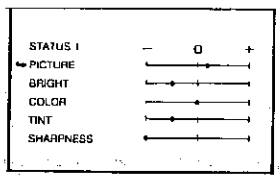
Prüfen der Bildeinstellungen

Die ADJUST CHECK-Taste drücken.

ADJUST CHECK

Auf Drücken der ADJUST CHECK-Taste werden die in den Registern programmierten Einstellungen angezeigt.

OSD-Einblendung



• Zum Ausschalten der OSD-Einblendung die Taste erneut drücken.

■ Mit den VIDEO ADJUSTMENT SELECT- und Regeltasten (+)(−) können die Bildeinstellungen auch während des Überprüfens (d.h. während der Anzeige der Einstellungen auf der Bildwand) geändert werden.

Ändern von Bildeinstellungen während der Überprüfung (ADJUST CHECK)

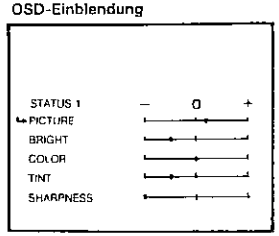
1 Mit der STATUS SELECT-Taste das zu bearbeitende Status-Register wählen.

STATUS SELECT

Mit jedem Tastendruck schaltet sich das Gerät auf das jeweils nächste Register.

[STATUS 1] → [STATUS 2] → [STATUS 3] → [STATUS 4] → [STATUS 5] → [STATUS 1]

OSD-Einblendung



•Angezeigt werden die zuletzt programmierten Einstellungen.

2 Die Bildeinstellungen mit der SELECT-Taste und den Regeltasten (+)(−) im VIDEO ADJUSTMENT-Feld wunschgemäß ändern.

VIDEO ADJUSTMENT

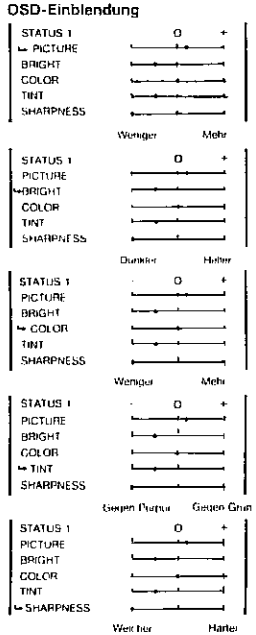
−	SELECT	+

Mit jedem Drücken der SELECT-Taste bewegt sich das Zeichen "↳", das die derzeit gewählte Einstellung anzeigt, zur jeweils nächsten Zeile

[BILD] → [HELLIGKEIT] → [FARBSTÄRKE] → [FARBTON] → [BILDSCHÄRFE] → [BILD]

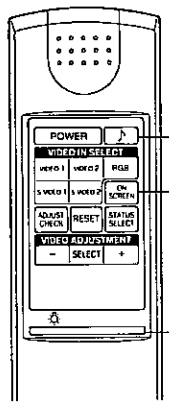
Mit den Regeltasten (+)/(−) kann das Zeichen "↳" verschoben werden.

OSD-Einblendung



Praktische Funktionen

Fernbedienung

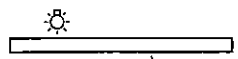


Eingabe-Kontrolltontaste

Bildschirmanzeigetaste (ON SCREEN)

Schalter für Tastenbeleuchtung

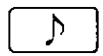
Bei Fernbedienung in verdunkelten Räumen



Den Schalter für Tastenbeleuchtung drücken.

■ Die Tasten werden etwa 5 Sekunden lang beleuchtet.

Für Fernbedienung mit akustischer Eingabebestätigung



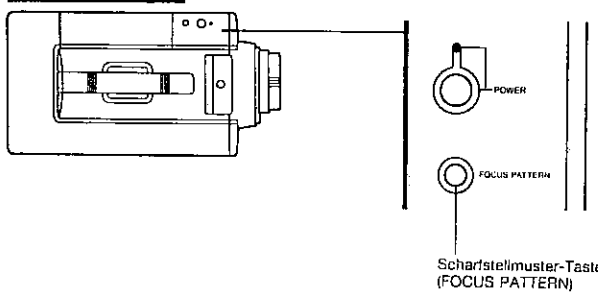
Die Eingabe-Kontrolltontaste drücken.

•Bei eingeschaltetem Kontrollton ertönt bei jeder Tastenbetätigung ein Bestätigungston.

Hinweise:

- Wenn eine der Bedienfeldtasten betätigt wird, leuchtet diese kurz auf.
- Wenn eine der Tasten bei eingeschalteter Tastenbeleuchtung betätigt wird, bleibt die entsprechende Taste ca. 5 Sekunden lang beleuchtet.

Ansicht von oben



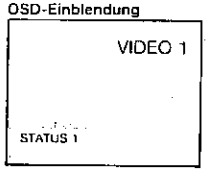
Scharfstellmuster-Taste (FOCUS PATTERN)

Überprüfen der Videoeingangs- und Registerwahl

Die ON SCREEN-Taste drücken.

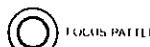
■ Der eingeschaltete Videoeingang und das gewählte Status-Register werden etwa 4 Sekunden lang auf der Bildwand angezeigt.

OSD-Einblendung



(Beispiel: Bei Wahl von VIDEO 1 und STATUS 1)

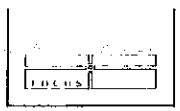
Zum genauen Scharfeinstellen



Die FOCUS PATTERN-Taste drücken.

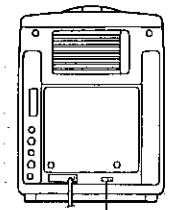
■ Auf der Bildwand wird etwa 15 Minuten das Scharfstellmuster angezeigt. Mit Hilfe dieses Musters kann Präzise scharfgestellt werden.

OSD-Einblendung



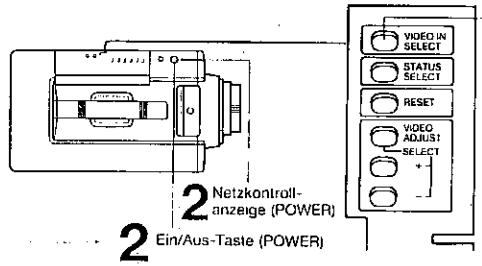
Grundlegende Bedienung am Projektor

Geräterückseite



1 Hauptnetzschalter

Bedienelemente unter der Klappe am Projektor

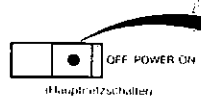


3 Video-Eingangswahltaste (VIDEO IN SELECT)

2 Netzkontrollanzeige (POWER)

2 Ein/Aus-Taste (POWER)

1 Gerät einschalten.



Den Hauptnetzschalter auf ON stellen.

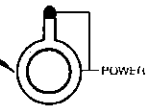
■ Zum ersten Einschalten des Geräts und bei erloschener Netzkontrollanzeige den Hauptnetzschalter auf ON stellen.

■ Bei ausgeschaltetem Hauptnetzschalter ist die Netzkontrollanzeige erloschen.

Bei einem bereits eingeschalteten Gerät leuchtet die Anzeige rot.

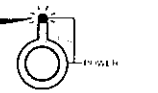
2 Den Projektor einschalten.

Die Ein/Aus-Taste (POWER) drücken.



■ Nach dem Einschalten des Gerats wechselt die Netzkontrollanzeige von Rot auf Grun. Sie zeigt den Betriebszustand der Projektionslampe an.

Grunes Blinken
··· Aufheizphase
Grun
··· Lampe eingeschaltet



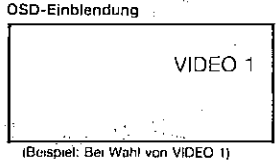
3 Anwählen der Video-Signalquelle

Mit der VIDEO IN SELECT-Taste auf den belegten Eingang schalten.

■ Das von der gewählten Signalquelle eingehende Videobild wird auf die Bildwand projiziert.

Der eingeschaltete Videoeingang wird ca. 4 Sekunden lang oben rechts auf der Bildwand angezeigt.

OSD-Einblendung



(Beispiel: Bei Wahl von VIDEO 1)

■ Schaltet sich mit jedem Tastendruck weiter.

[VIDEO 1]
↓
[S-VIDEO 1]
↓
[VIDEO 2]
↓
[S-VIDEO 2]
↓
[RGB]

Hinweise:

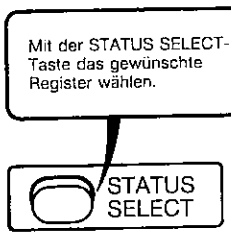
- Nach dem Ausschalten des Projektors mit der POWER-Taste läuft der Kühlventilator noch weiter, bis die Innentemperatur ausreichend abgesunken ist (ca. 2 Minuten). Bei noch laufendem Kühlventilator nicht den Netzstecker ziehen.
- Wenn der Projektor unmittelbar nach dem Ausschalten erneut eingeschaltet wird, kann es eine Weile dauern, bis die Lampe sich einschaltet (Während der Wartezeit blinkt die POWER-Anzeige grün.)

Bildeinstellungen am Projektor

- Durch Drücken der RESET-Taste werden alle vorgenommenen Bildeinstellungen auf die Werksvoreinstellungen zurückgestellt. Mit den VIDEO ADJUST-Tasten unter der Klappe am Projektor kann das Bild wunschgemäß eingestellt werden.
- Die vorgenommenen Einstellungen können in den Status-Registern 1–5 abgespeichert werden.

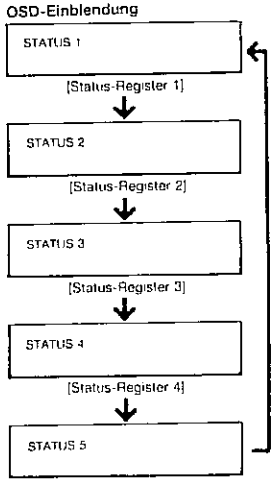
Bildeinstellungen

1 Mit der STATUS SELECT-Taste das gewünschte Register wählen.

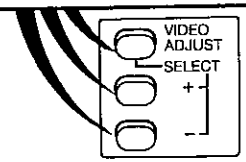


Mit jedem Drücken der STATUS-Taste schaltet sich das Gerat auf das jeweils nächste Register.

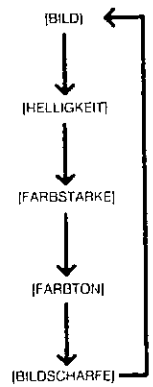
OSD-Einblendung



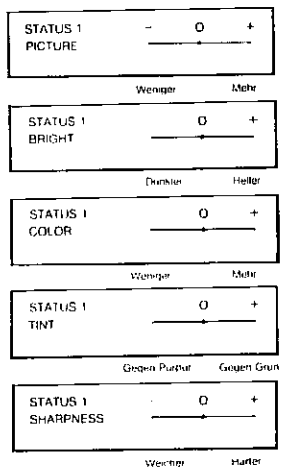
2 Mit SELECT und den Regeltasten (+)/(–) des VIDEO ADJUST-Felds die gewünschte Einstellung vornehmen.



Mit jedem Drücken der SELECT-Taste während der OSD-Einblendung schaltet sich das Gerat auf die jeweils nächste Einstellung.

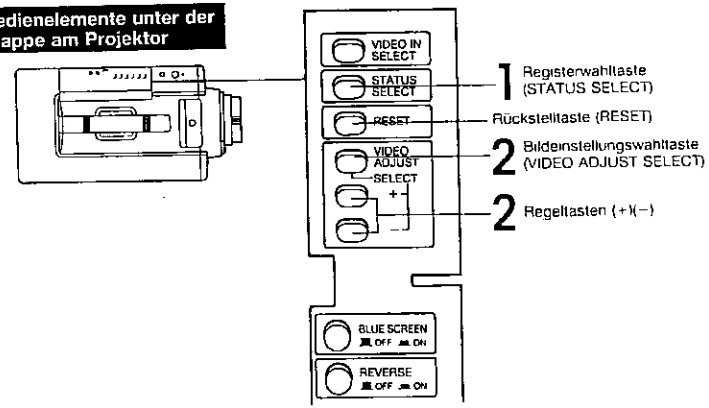


Mit den Regeltasten (+)/(–) kann das Zeichen "♦" verschoben werden.



Hinweis:
• Alle STATUS-Register werden im Werk vor Auslieferung auf die Normaleinstellungen voreingestellt.

Bedienelemente unter der Klappe am Projektor

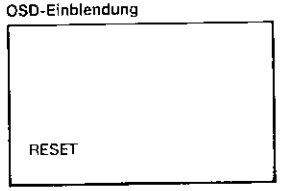


Rückstellen der Bildeinstellungen

Die RESET-Taste drücken.

■ Das Gerat stellt sich auf die im Werk vorprogrammierten Normaleinstellungen zurück

OSD-Einblendung

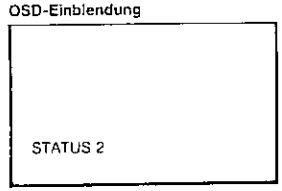


Abrufen gespeicherter Einstellungen

Mit der STATUS SELECT-Taste auf das gewünschte Register schalten.

■ Auf dem Bildschirm erscheint der Name des Registers und das Bild wird automatisch gemäß den dort gespeicherten Einstellungen geregelt.

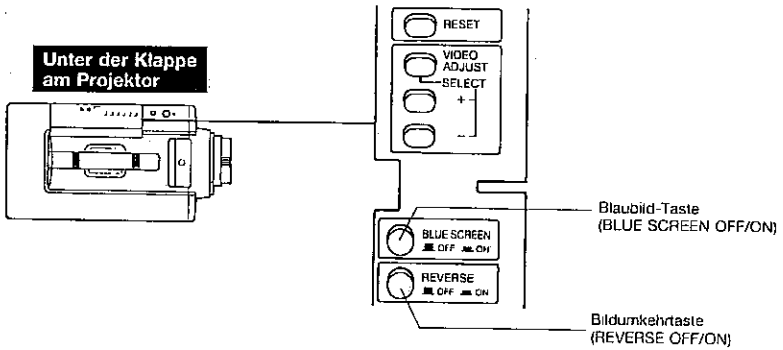
OSD-Einblendung



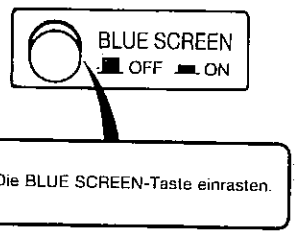
(Beispiel: Bei Wahl von Register "STATUS 2")

Am Projektor bedienbare Funktionen

■ Wenn die Blaubild-Funktion (BLUE SCREEN) aktiviert ist, schaltet sich der Projektor automatisch auf Blauwiedergabe, wenn keine Video-Eingangssignale mehr anliegen.
Die Blaubild-Funktion kann mit der BLUE SCREEN-Taste ein- und ausgeschaltet werden.

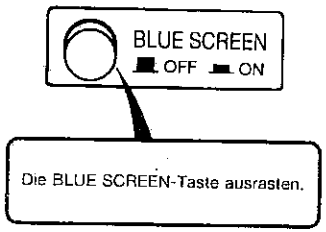


Zum Aktivieren der Blaubild-Funktion



• Bei eingerasteter BLUE SCREEN-Taste (Stellung "ON") schaltet sich der Projektor auf Blauwiedergabe um, wenn keine Eingangssignale mehr anliegen.

Zum Ausschalten der Blaubild-Funktion



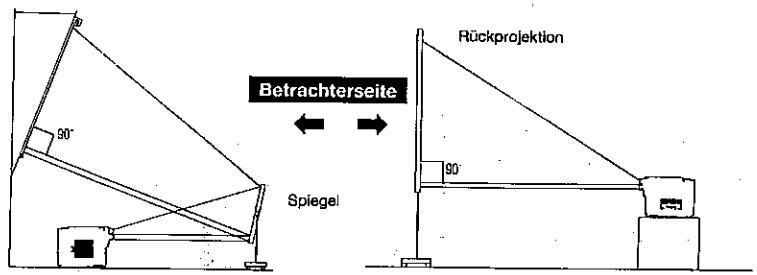
• Bei ausgerasteter BLUE SCREEN-Taste (Stellung "OFF") arbeitet die Blaubild-Funktion nicht.

Hinweis:

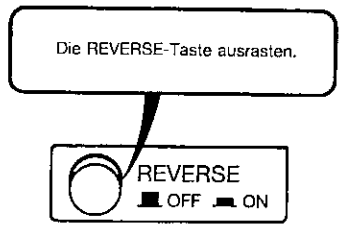
• Wenn bei Blaubildwiedergabe kein erneutes Signal eingeht (Bildwand bleibt blau), schaltet sich der Projektor nach 15 Minuten automatisch aus.

■ Der Projektor kann auf spiegelbildliche Wiedergabe (Bildumkehr) umgeschaltet werden.
■ Die Bildumkehrfunktion ermöglicht die nachstehenden Aufstellungsvarianten.

■ Durch Bildumkehr kann das Bild unter Umlenkung durch einen vor dem Objektiv aufgestellten Spiegel (normaler Flachspiegel) auf die Bildwand projiziert werden.
■ Durch Einsatz der Bildumkehrfunktion ist auch Rückprojektion auf eine Rückprowand möglich.

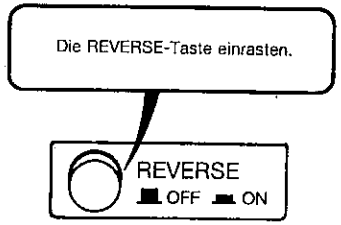


Für normale Projektion



■ Bei ausgerasteter REVERSE-Taste (Stellung "OFF") ist die Bildumkehrfunktion ausgeschaltet (Normaleinstellung).

Für Bildumkehr

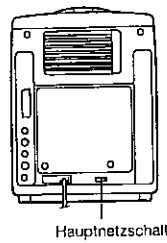


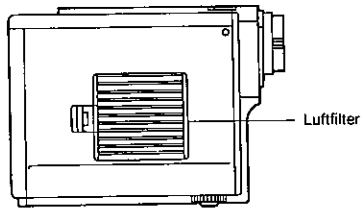
■ Bei eingerasteter REVERSE-Taste (Stellung "ON") gibt der Projektor das Video-eingangssignal spiegelbildlich wieder.

Wartung

Reinigen des Luftfilters

- Der Filter sollte alle 100 Betriebsstunden gereinigt werden.
  Wenn der Projektor Staub oder Rauch ausgesetzt ist, sollte der Filter öfter gereinigt werden.
- Wenn der Luftfilter sich nicht mehr reinigen läßt, sollte er ausgewechselt werden.
  Wenden Sie sich dann an den SHARP-Händler.





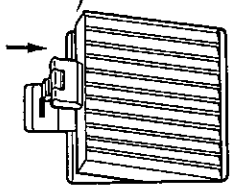
1 Gerät ausschalten.

Den Hauptnetzschalter auf OFF stellen.

(Hauptnetzschalter)

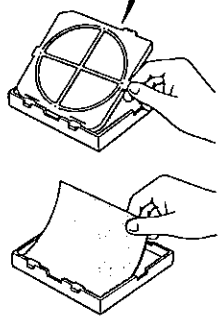
2 Den Filterhalter abnehmen.

Die Raste seitlich andrücken und den Filterhalter abnehmen.



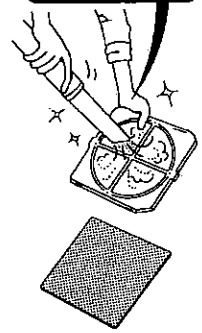
3 Den Luftfilter entnehmen.

Das Filtersieb an einem der Vorsprünge am Rahmen anfassen und herausnehmen. Die Schwammeinlage ebenfalls entnehmen.



4 Den Luftfilter reinigen.

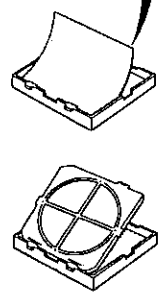
Filtersieb und Schwammeinlage mit einem Staubsauger reinigen.



- Den Filter in kaltem oder lauwarmem Wasser mit einem neutralen Lösungsmittel reinigen, wenn er stark verschmutzt ist. Anschließend in der Sonne trocknen lassen.

5 Den Luftfilter wieder zusammensetzen.

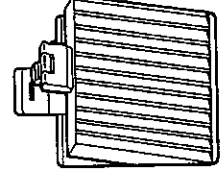
Die Schwammeinlage und das Filtersieb wieder wie ursprünglich in den Filterhalter einsetzen.



- Darauf achten, daß das Filtersieb nicht verbogen wird.

6 Filterhalter wieder anbringen.

Den Filterhalter wieder in den Projektor einsetzen.



- Überzeugen Sie sich, daß der Filter richtig eingesetzt ist, da sich das Gerät anderenfalls möglicherweise nicht einschalten läßt.

Hinweis:

- Den Filter nur auf der Außenseite absaugen. Wenn auch die Innenseite abgesaugt wird, kann das Filtervermögen dadurch abnehmen.

Warnanzeigen

Lampe

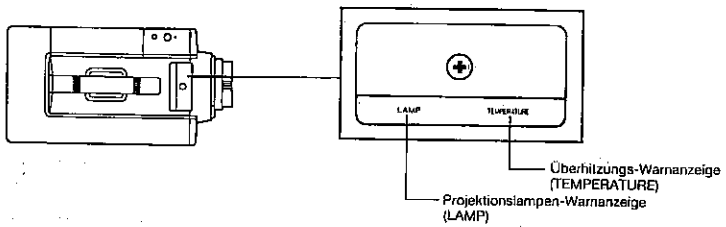
Die Projektionslampe hat eine begrenzte Lebensdauer.

1. Wenn die Lampe fast verbraucht ist, läßt die Bild- und Farbqualität nach. Die Lampe durch den Kundendienst auswechseln lassen.
2. Wenn die neue Lampe nach dem Auswechseln nicht aufleuchtet, geben Sie den Projektor bitte bei der nächsten SharpVision Kundendienststelle in Reparatur.

- Die Projektionslampe erzeugt sehr starkes Licht. Auf keinen Fall bei eingeschaltetem Projektor direkt in das Objektiv sehen!

- Die am Projektor aufleuchtenden Warnanzeigen weisen auf Betriebsprobleme hin.
- Der Projektor besitzt Warnanzeigen für Überhitzung (TEMPERATURE) und für erforderliches Auswechseln der Projektionslampe (LAMP).
- Bei Betriebsproblemen leuchtet die Überhitzungs- oder die Projektionslampen-Warnanzeige rot auf und das Gerät schaltet sich aus. In solchen Fällen den Hauptnetzschalter ausschalten und nach der nachstehenden Anleitung vorgehen.

Ansicht von oben



Warnanzeigen

Wenn die TEMPERATURE- oder LAMP-Warnanzeige aufleuchtet, liegt in der Regel eines der nachstehend aufgeführten Probleme vor.

Hinweis
Häufige Betriebsprobleme:

Warnanzeige	Symptom	Prüfpunkte	Maßnahmen
Überhitzung (TEMPERATURE)	Innentemperatur zu hoch.	• Luftzirkulation behindert?	• Projektor an einer günstigeren Stelle aufstellen.
		• Luftfilter zugesetzt?	• Luftfilter reinigen
		• Kühlventilator defekt? • Interne Schaltung defekt?	• Projektor in Reparatur geben.
Projektionslampe (LAMP)	Projektionslampe leuchtet nicht.	• Lampe am Ende ihrer Lebensdauer? • Lampenschaltkreis defekt?	• Projektor in Reparatur geben.

Hinweis: Wenn die für das Aufleuchten der Überhitzungs-Warnanzeige verantwortliche Störung behoben ist, warten, bis der Projektor sich abgekühlt hat, bevor Sie das Gerät wieder einschalten (mindestens 5 Minuten).

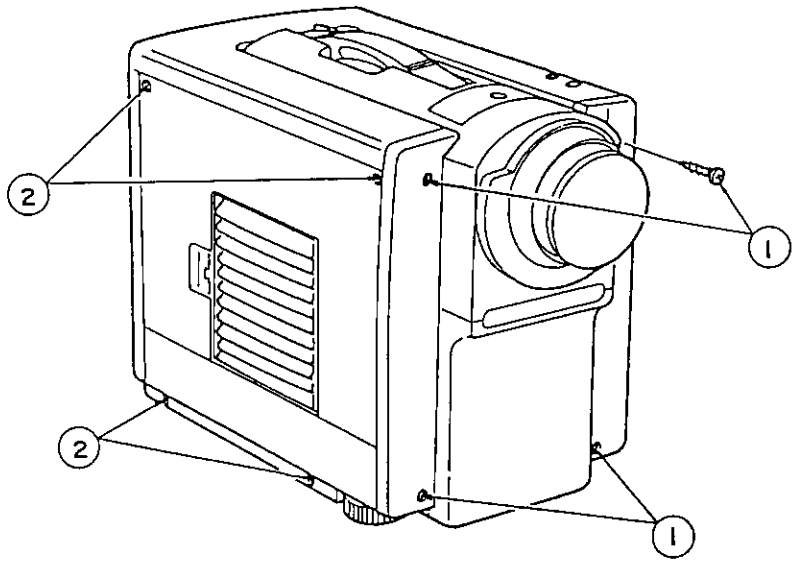
Bevor Sie sich an den Kundendienst wenden

Kein Bild	• Projektor nicht an eine Netzsteckdose angeschlossen? • Hauptnetzschalter oder Projektionslampe (POWER) nicht eingeschaltet? • Helligkeit (BRIGHT) auf Minimum eingestellt?
Blasse oder schlechte Farben	• Ist die Farbstärke (siehe "Bildeinstellungen") richtig eingestellt?
Verschwommenes Bild	• Bild nicht scharf einstellt? • Projektionsabstand für eine richtige Scharfstellung zu groß oder zu klein? • Das Objektiv mit Spezialpapier reinigen.
Gelegentliche ungewöhnliche Geräusche aus dem Gehäuse	• Wenn das Bild normal ist, gehen die Geräusche auf Verziehungen des Gehäuses durch Temperaturänderungen zurück. Dies hat keinen Einfluß auf den Betrieb.
Warnanzeige leuchtet	• Siehe "Warnanzeigen"

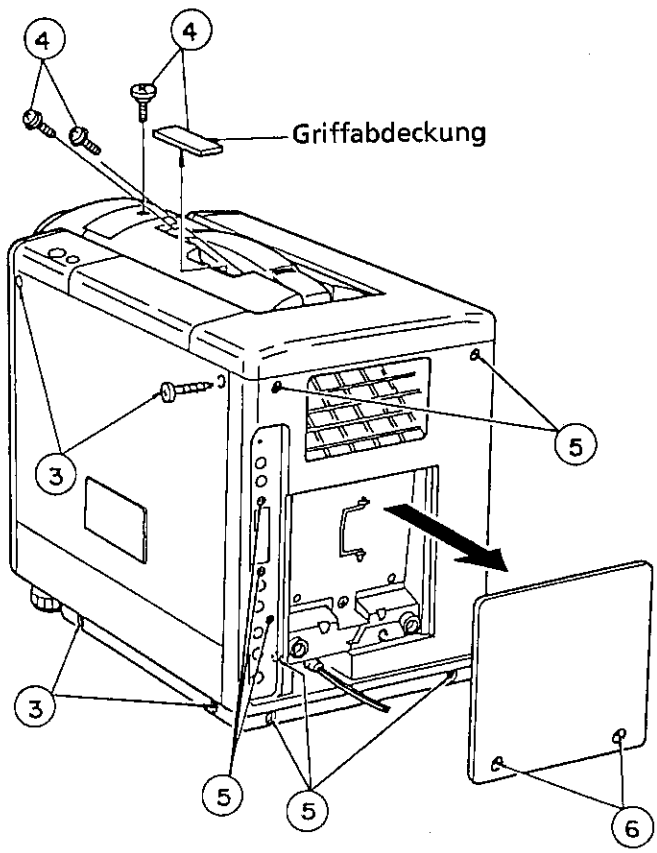
AUSBAU DER WICHTIGSTEN TEILE

Entfernen des Gehäuses

1. Die 4 Metallschrauben entfernen, die die Gehäuse-Vorderseite halten.
2. Die 4 Metallschrauben entfernen, die die linke Gehäuseseite halten.

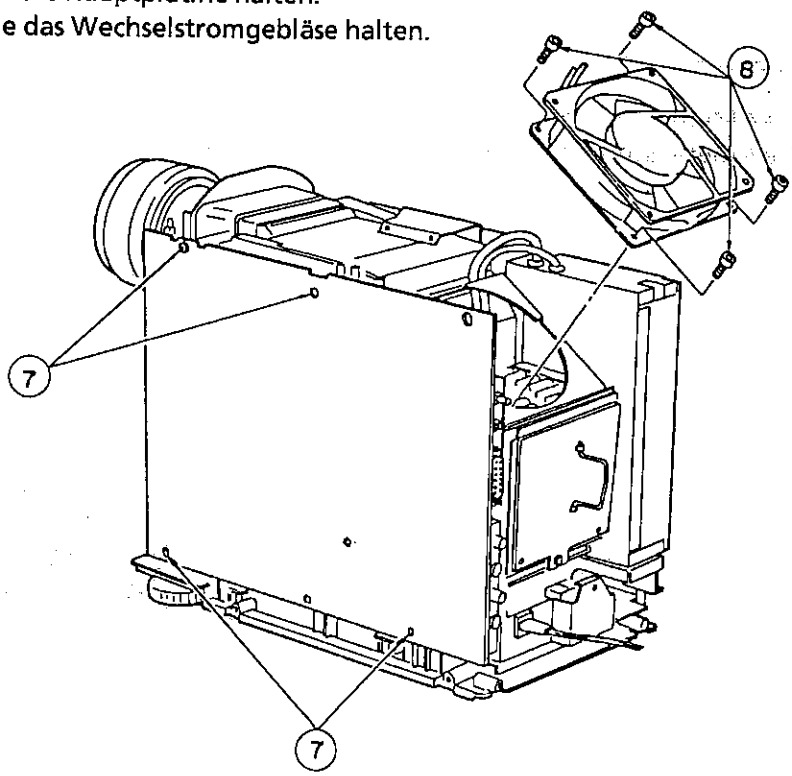


3. Die 4 Metallschrauben entfernen, die die rechte Gehäuseseite halten.
4. Die 3 Metallschrauben entfernen, die die Gehäuse-Oberseite halten, und die Griffabdeckung entfernen.
5. Die 8 Metallschrauben entfernen, die die Gehäuse-Rückseite halten.
6. Die 2 Schrauben entfernen, die die Lampen-Auswechseltafel halten.



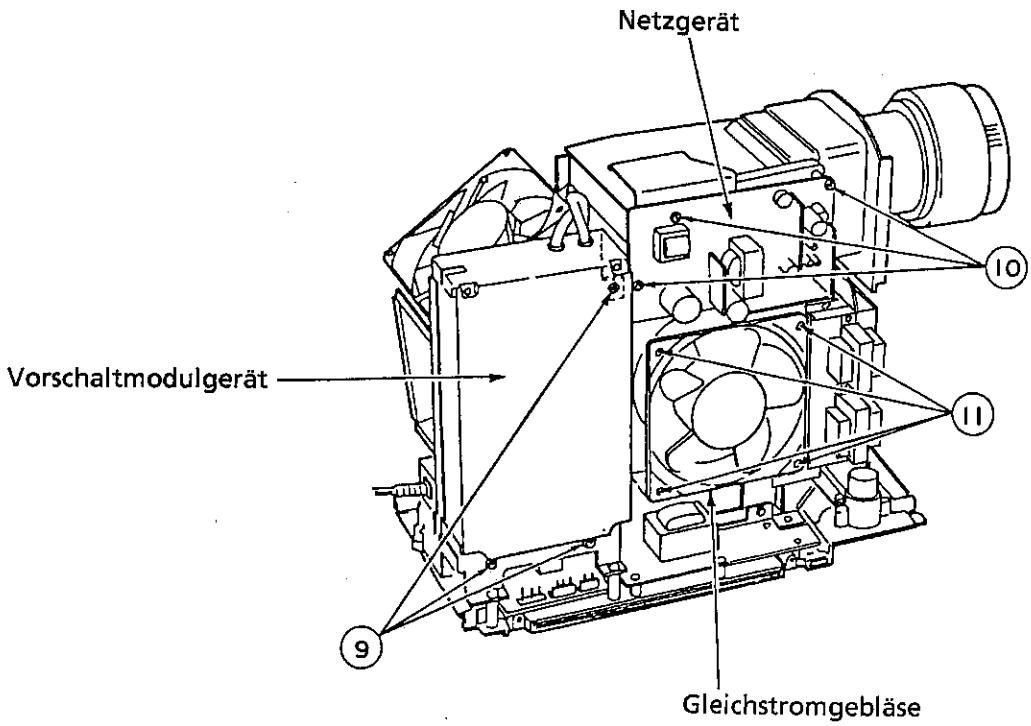
Ausbau der Hauptplatine und des hinteren Gebläses

7. Die 4 Metallschrauben entfernen, die die Hauptplatine halten.
8. Die 4 Metallschrauben entfernen, die das Wechselstromgebläse halten.



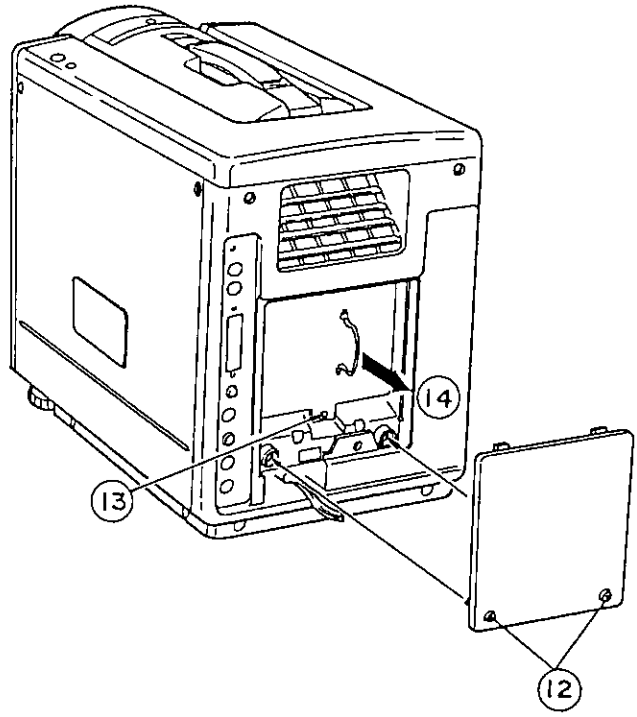
Ausbau des Vorschaltmodulgeräts, des Netzgeräts und des Gleichstromgebläses

9. Die 3 Metallschrauben entfernen, die das Vorschaltmodulgerät halten.
10. Die 4 Metallschrauben entfernen, die das Netzgerät halten.
11. Die 4 Metallschrauben entfernen, die das Gleichstromgebläse halten.



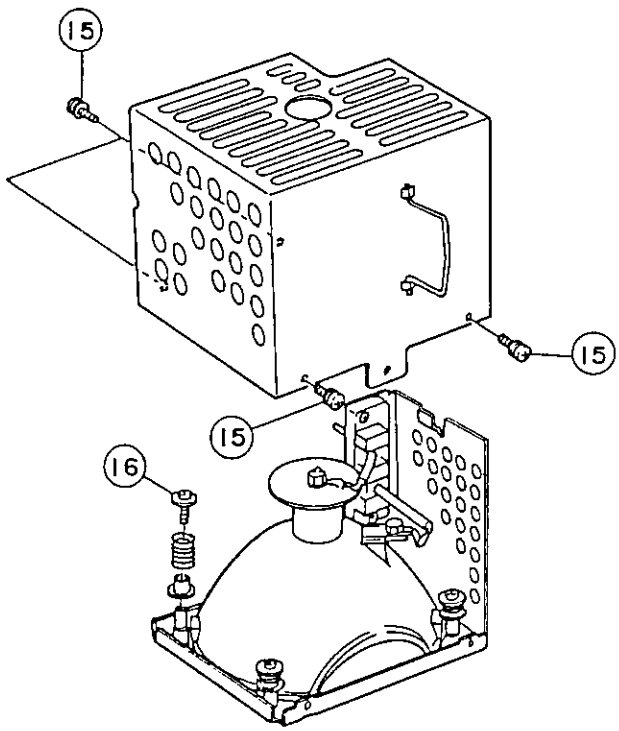
Ausbau des Lampenkastens

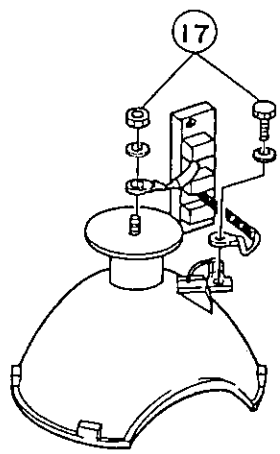
12. Die 2 Metallschrauben entfernen, die die Lampenaustauschtafel halten.
13. Die Metallschraube entfernen, die den Lampenkasten hält.
14. Den Lampenkasten in Pfeilrichtung herausziehen.



Auswechseln der Lampe

15. Die 2 Metallschrauben vom Lampenkasten entfernen, die den Winkel halten.
16. Die 4 Metallschrauben entfernen, die die Lampe halten.
17. Die Sechskantmuttern, die Metallschrauben und die Unterlegscheiben an den beiden Lampenelektroden zum Auswechseln der Lampe entfernen.

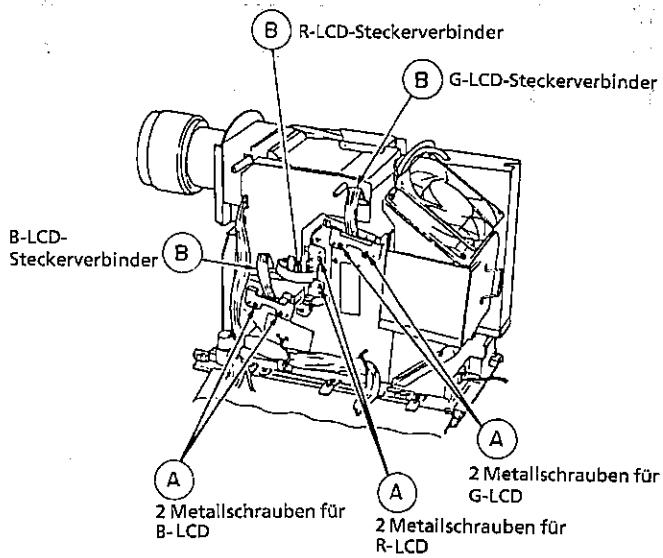


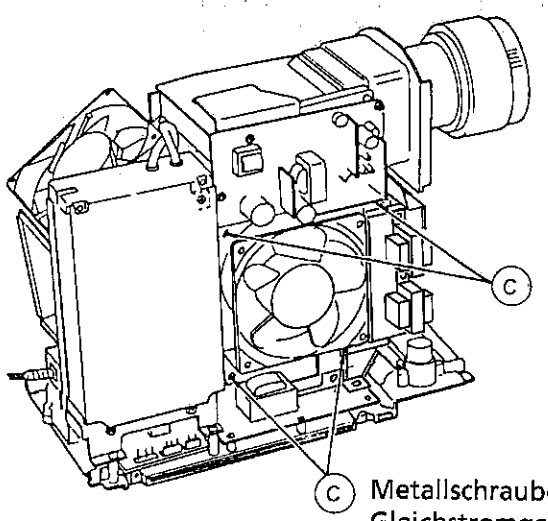


Ausbau der LCD-Tafel

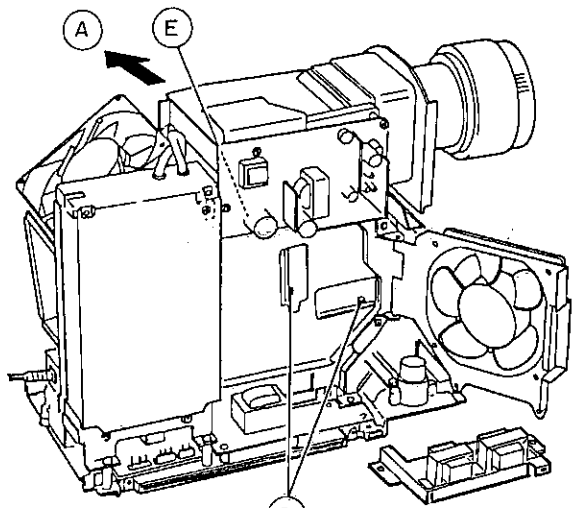
Verfahren

Ⓐ. Für R, G und B jeweils 2 Metallschrauben entfernen, die die LCD-Tafel halten.
Ⓑ. Für R, G und B jeweils den LCD-Tafel-Steckverbinder entfernen.
Ⓒ. Die 4 Metallschrauben an der gegenüberliegenden Seite entfernen, die den Gleichstromgebläse-Montagewinkel halten, und das Gebläse öffnen.
Ⓓ. Für R und B jeweils die Metallschraube lösen, die die LCD-Tafel hält, und zum Entfernen zur Seite A schieben.
Ⓔ. Einen Schraubendreher durch die Rückseite des Netzgeräts für die G-LCD-Tafel stecken, um die Metallschraube zu lösen.





C Metallschrauben für Gleichstromgebläse-Montagewinkel



D Metallschrauben lösen, die die Tafel halten.

*Schlechtes Bild aufgrund von Staubablagerung

Phänomen

① Nach längerer Verwendungsdauer treten feine Punkte oder Flecken im Bild auf.
② In Teilen des Bildschirms tritt ungleichmäßige Farbe für Cyan, Magenta und Gelb auf.

Prüfverfahren

1) Wenn Staub auf der R-, G- und B-Tafel vorhanden ist, erscheinen die folgenden Symptome auf dem Bildschirm.
   ① R-LCD-Tafel→Cyan ②G-LCD-Tafel→Magenta ③B-LCD-Tafel→Gelb
2) Durch Änderung der Fokussierung kann festgestellt werden, ob der Staub sich an der Vorder- oder Rückseite der Tafel befindet.

- Staub an der Tafel-Vorderseite →Fokussierung auf dem Staub vor der besten Scharfeinstellung.
- Staub an der Tafel-Rückseite →Fokussierung auf dem Staub hinter der besten Scharfeinstellung.

Gegenmaßnahme

Den Staub von der Tafel durch Absaugung usw. entfernen.

TABELLE FÜR STÖRUNGSSUCHE

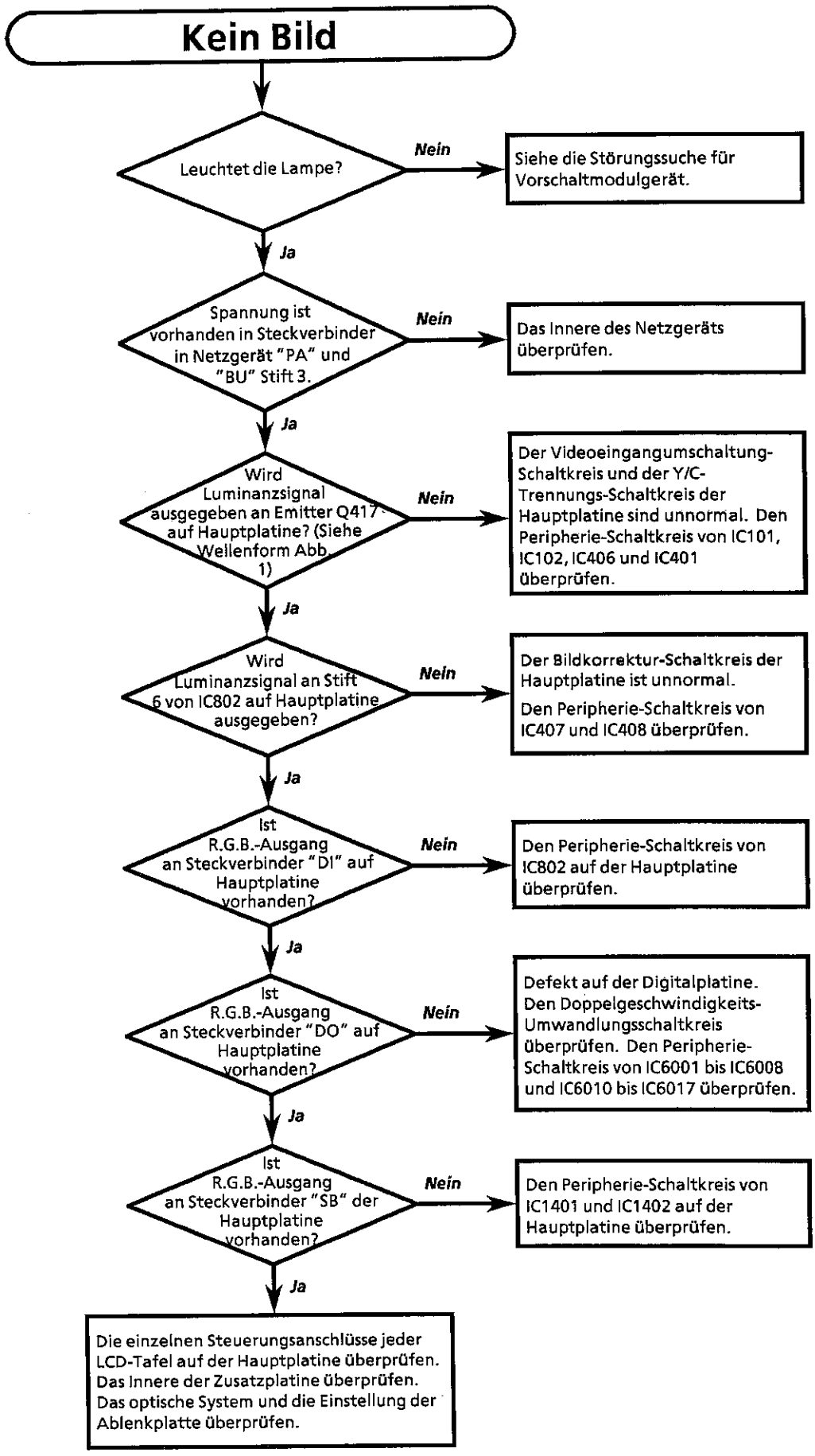

Kein Bild
Leuchtet die Lampe?
Nein
Siehe die Störungssuche für Vorschaltmodulgerät.
Ja
Spannung ist vorhanden in Steckverbinder in Netzgerät "PA" und "BU" Stift 3.
Nein
Das Innere des Netzgeräts überprüfen.
Ja
Wird Luminanzsignal ausgegeben an Emitter Q417 auf Hauptplatine? (Siehe Wellenform Abb. 1)
Nein
Der Videoeingangumschaltung-Schaltkreis und der Y/C-Trennungs-Schaltkreis der Hauptplatine sind unnormal. Den Peripherie-Schaltkreis von IC101, IC102, IC406 und IC401 überprüfen.
Ja
Wird Luminanzsignal an Stift 6 von IC802 auf Hauptplatine ausgegeben?
Nein
Der Bildkorrektur-Schaltkreis der Hauptplatine ist unnormal.
Den Peripherie-Schaltkreis von IC407 und IC408 überprüfen.
Ja
Ist R.G.B.-Ausgang an Steckverbinder "DI" auf Hauptplatine vorhanden?
Nein
Den Peripherie-Schaltkreis von IC802 auf der Hauptplatine überprüfen.
Ja
Ist R.G.B.-Ausgang an Steckverbinder "DO" auf Hauptplatine vorhanden?
Nein
Defekt auf der Digitalplatine. Den Doppelgeschwindigkeits-Umwandlungsschaltkreis überprüfen. Den Peripherie-Schaltkreis von IC6001 bis IC6008 und IC6010 bis IC6017 überprüfen.
Ja
Ist R.G.B.-Ausgang an Steckverbinder "SB" der Hauptplatine vorhanden?
Nein
Den Peripherie-Schaltkreis von IC1401 und IC1402 auf der Hauptplatine überprüfen.
Ja
Die einzelnen Steuerungsanschlüsse jeder LCD-Tafel auf der Hauptplatine überprüfen.
Das Innere der Zusatzplatine überprüfen.
Das optische System und die Einstellung der Ablenkplatte überprüfen.

TABELLE FÜR STÖRUNGSSUCHE (Fortgesetzt)

Keine Farbe/unnormaler Farbton bei Video und S-Video

Die Farbtiefe und den Farbton mit der Video-Einstelltaste wählen und die Einstellung mit den UP/DOWN-Tasten durchführen. (Hinweis) Bewirkt keine Änderung für Standard-Video.

Verändert sich die Steuerspannung von IC801 der Hauptplatine?
Färbtiefe IC801 Stift 13 ca. ±0,5 V (Gleichstrom).
Farbton IC801 Stift 12 ca. ±0,2 V (Gleichstrom).

Ändern sich die folgenden Punkte des Eingangsanschlusses (DI-Steckverbinder) der Digitalplatine?
R→DI-3, siehe Wellenform Abb. 13
G→DI-5, siehe Wellenform Abb. 14
B→DI-7, siehe Wellenform Abb. 15

Den Peripherie-Schaltkreis von IC802 und IC801 der Hauptplatine überprüfen. IC801BLK, den Chroma-Eingang und den Farbdifferenz-Ausgang überprüfen. Siehe Wellenform Abb. 5, 6, 7 usw.

Verändert sich die Steuerspannung des Mikroprozessors (IC2001) der Hauptplatine?
Farbtiefe IC2001 Stift 9 Impulsbreitenmodulation-Ausgang überprüfen.
Farbton IC2001 Stift 8 Impulsbreitenmodulation-Ausgang überprüfen.

Ändern sich die folgenden Punkte des Eingangsanschlusses (DO-Steckverbinder) der Digitalplatine?
R→D0-4, siehe Wellenform Abb. 17
G→D0-6, siehe Wellenform Abb. 18
B→D0-8, siehe Wellenform Abb. 19

Defekt der Digitalplatine. Peripherie-Schaltkreis überprüfen. Siehe Wellenform Abb. 13-20.

Den Peripherie-Schaltkreis des Mikroprozessors (IC2001) der Hauptplatine überprüfen.
Videowahl Digital/Analog-Wandler Aufwärts- und Abwärts-Tasten Eingabeperipherie.

Den Peripherie-Schaltkreis des Mikroprozessors (IC2001) der Hauptplatine überprüfen.

Ändern sich die folgenden Punkte des Video-Eingangsanschlusses Stift 9 jeder einzelnen LCD-Tafel?
R→R-LCD Stift 9, siehe Wellenform Abb. 25
G→G-LCD Stift 9, siehe Wellenform Abb. 26
B→B-LCD Stift 9, siehe Wellenform Abb. 27

Defekt der Zusatzplatine. Peripherie-Schaltkreis überprüfen. Siehe Wellenform Abb. 17-28.

Den Steueranschluß der einzelnen LCD-Tafeln überprüfen.
- Den Peripherie-Schaltkreis von IC1401 überprüfen.
- Das optische System, die Polarisierungsplatte usw. überprüfen.

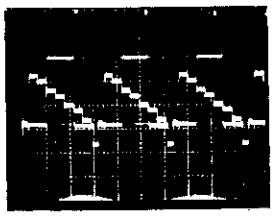


Abb. 1. Emitter von Q417
Y-Signal
20µs/Tlg. 0,5V/Tlg.

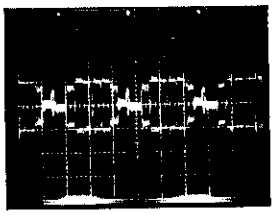


Abb. 2. Stift 31 von IC801
C-Signal
20µs/Tlg. 50mV/Tlg.

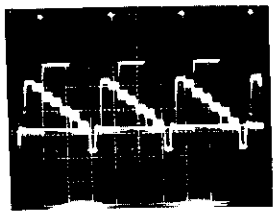


Abb. 3. Stift 4 von IC801
Sync-Eingang
20µs/Tlg. 0,5V/Tlg.

Abb. 4. Stift 28 von IC801,
Sync-Bewertungsausgang
20µs/Tlg. 2V/Tlg.

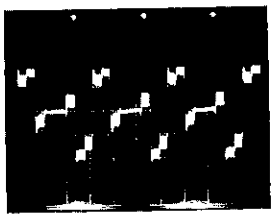


Abb. 5. Stift 20 von IC801
R-Y
20µs/Tlg. 1V/Tlg.

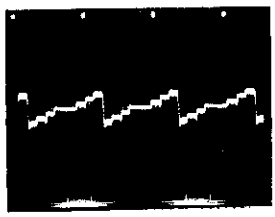


Abb. 6. Stift 21 von IC801
G-Y
20µs/Tlg. 1V/Tlg.

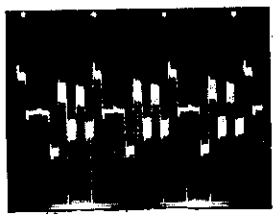


Abb. 7. Stift 22 von IC801
B-Y
20µs/Tlg. 1V/Tlg.

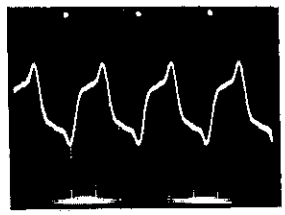


Abb. 8. Emitter von Q803
FsC
0,1µs/Tlg. 0,2V/Tlg.

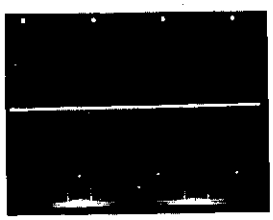


Abb. 9. Stift 7 von IC602
Austastung
20µs/Tlg. 0,2V/Tlg.

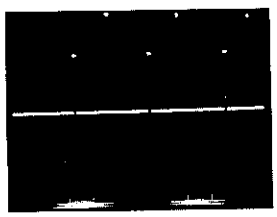


Abb. 10. Stift 6 von IC603
Klemmung
20µs/Tlg. 0,2V/Tlg.

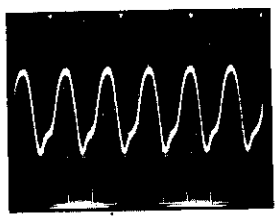


Abb. 11. Stift 6 von IC6009
28 MHz, Oszillation-Ausgang
20µs/Tlg. 1V/Tlg.

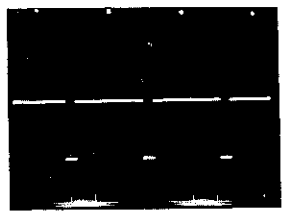


Abb. 12. Stift 7 von IC604
V-Sync
5ms/Tlg. 1V/Tlg.

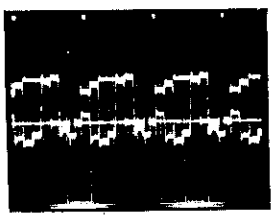


Abb. 13. Stift 3 von Steckverbinder
DI Rot-Eingang
20µs/Tlg. 0,5V/Tlg.

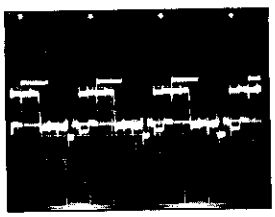


Abb. 14. Stift 5 von Steckverbinder
DI Grün-Eingang
20µs/Tlg. 0,5V/Tlg.

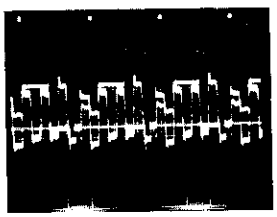


Abb. 15. Stift 7 von Steckverbinder
DI Blau-Eingang
20µs/Tlg. 0,5V/Tlg.

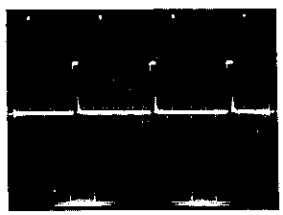


Abb. 16. Stift 1 von Steckverbinder
DI H-Sync-Eingang
20µs/Tlg. 2V/Tlg.

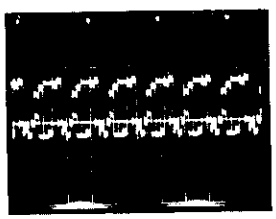


Abb. 17. Stift 4 von Steckverbinder
DO Rot-Ausgang
20µs/Tlg. 0,5V/Tlg.

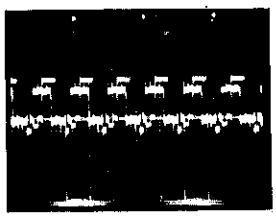


Abb. 18. Stift 6 von Steckverbinder
DO Grün-Ausgang
20µs/Tlg. 0,5V/Tlg.

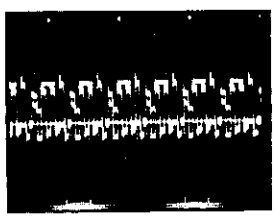


Abb. 19. Stift 8 von Steckverbinder
DO Blau-Ausgang
20µs/Tlg. 0,5V/Tlg.

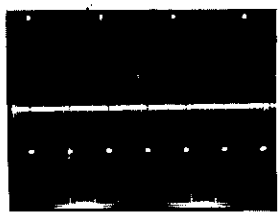


Abb. 20. Stift 1 von Steckverbinder
DO H-Sync-Ausgang
20µs/Tlg. 2V/Tlg.

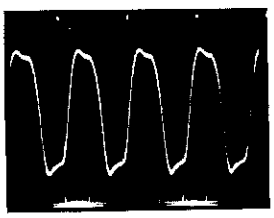


Abb. 21. Stift 2 von Grün-LCD
CK1
20ns/Tlg. 1V/Tlg.

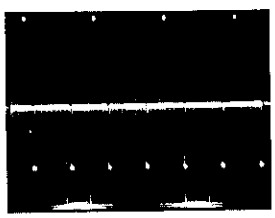


Abb. 22. Stift 4 von Grün-LCD
RES
20µs/Tlg. 2V/Tlg.

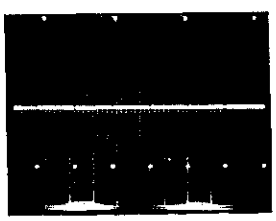


Abb. 23. Stift 9 von IC1001
HSYO
20µs/Tlg. 2V/Tlg.

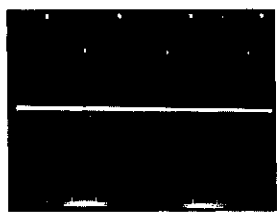


Abb. 24. Stift 14 von Grün-LCD
LCD VSYNC
5ms/Tlg. 2V/Tlg.

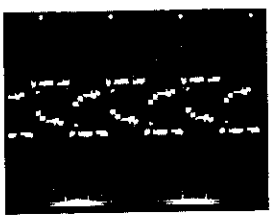


Abb. 25. Stift 3 von Steckverbinder
SB RED-VIDEO
20µs/Tlg. 1V/Tlg.

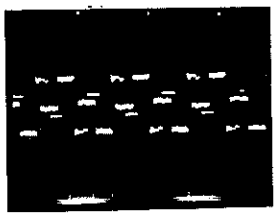


Abb. 26. Stift 5 von Steckverbinder
SB GREEN-VIDEO
20µs/Tlg. 1V/Tlg.

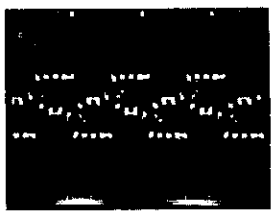


Abb. 27. Stift 1 von Steckverbinder
SB BLUE-VIDEO
20µs/Tlg. 1V/Tlg.

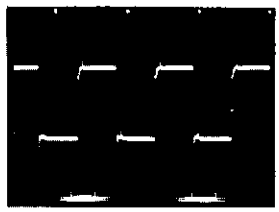


Abb. 28. Stift 13 von Grün-LCD
LCD COM
20µs/Tlg. 2V/Tlg.

TABELLE FÜR STÖRUNGSSUCHE (Fortgesetzt)

■ Störungssuche für Vorschaltmodulgerät

Das Vorschaltmodulgerät erzeugt beim Anlaufen eine hohe Spannung, daher darf die Spannungsversorgung nicht bei entfernter Lampe eingeschaltet werden.

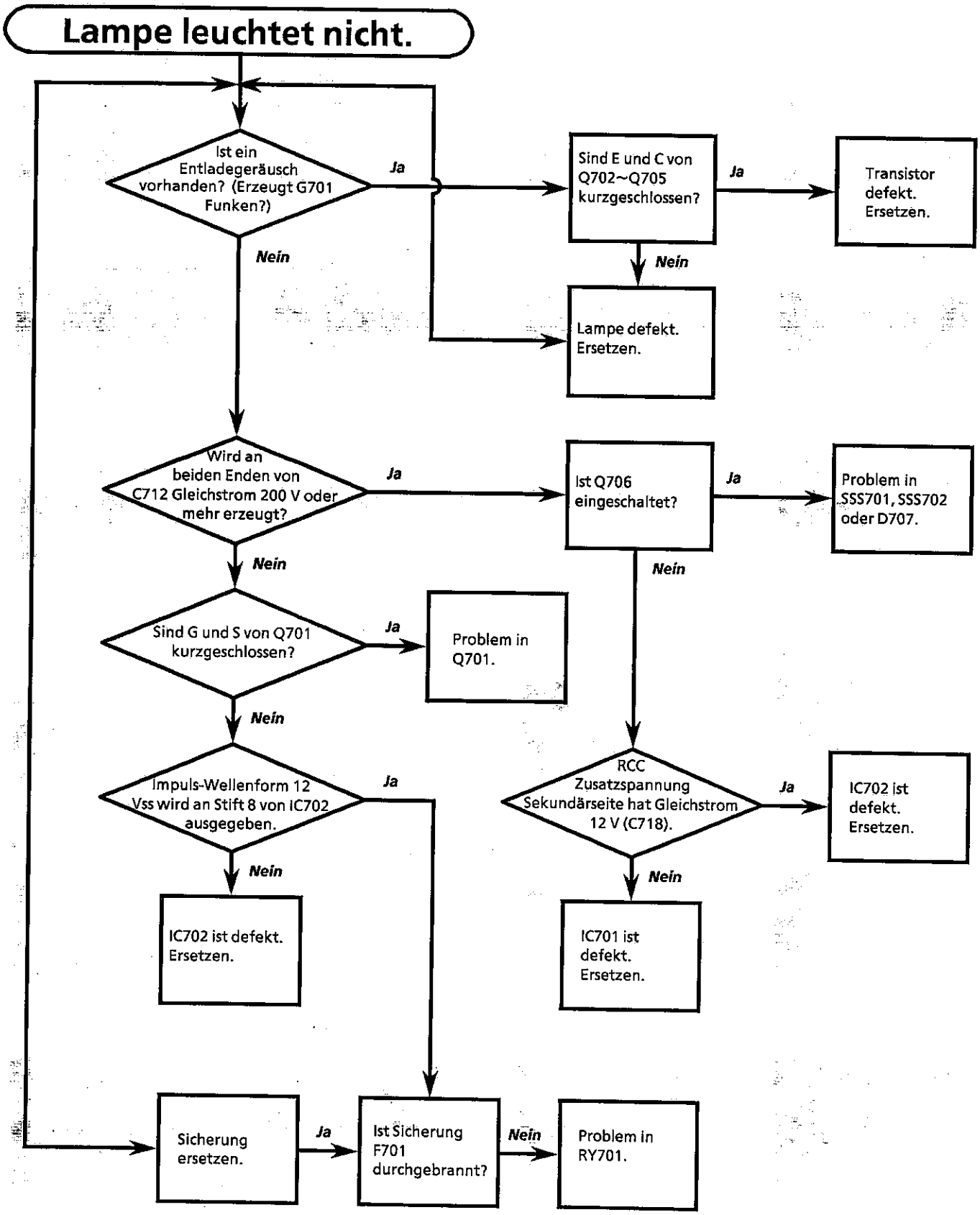


TABELLE FÜR STÖRUNGSSUCHE (Fortgesetzt)

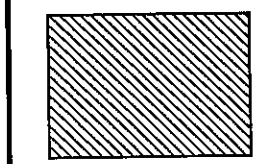
Video und S-Video können nicht synchronisiert werden.

Wird Sync-Bewertungs-Ausgangswellenform an Stift 28 von IC801 auf Hauptplatine ausgegeben? Siehe Wellenform Abb. 4.

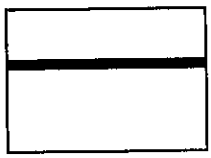
Ja

Nein

Was ist nicht möglich, Horizontal-Sync oder Vertikal-Sync?



horizontal



vertikal

Liegt Signal an Stift 7 von IC412 auf Hauptplatine an?

Ja

Nein

Den Peripherie-Schaltkreis von Q820, Q818 und IC801 auf der Hauptplatine überprüfen.

Den Peripherie-Schaltkreis des Eingangs-Umschalt-Schaltkreises IC101 und IC102 auf der Hauptplatine überprüfen.

Ist 2H-SYNC-Ausgang an Stift 2 von Steckverbinder DO auf der Hauptplatine vorhanden und mit dem Ausgang an Stift 28 von IC801 synchronisiert?

Nein

Die Peripherie des Sync-Schaltkreises der Digitalplatine überprüfen.

Ja

Ausgang an Stift 9 oder IC1001 der Zusatzplatine ist vorhanden und mit dem Ausgang an Stift 28 von IC801 der Hauptplatine synchronisiert.

Nein

IC605 und IC606 sowie den Peripherie-Schaltkreis von IC1001 der Zusatzplatine überprüfen.

Ja

Den Peripherie-Schaltkreis von IC1401 der Hauptplatine und IC1001 der Zusatzplatine überprüfen. Jede LCD-Tafel überprüfen.

Wird das Vertikal-Sync-Signal an Stift 7 der Hauptplatine IC604 ausgegeben, und ist es mit Stift 28 von IC801 synchronisiert?

Nein

Den Peripherie-Schaltkreis von IC607, IC604 und IC605 der Hauptplatine überprüfen.

Ja

Eingang wird dem V-Sync-Eingang Stift 14 an jeder LCD-Tafel zugeführt und ist synchronisiert mit Stift 28 von IC801 der Hauptplatine.

Nein

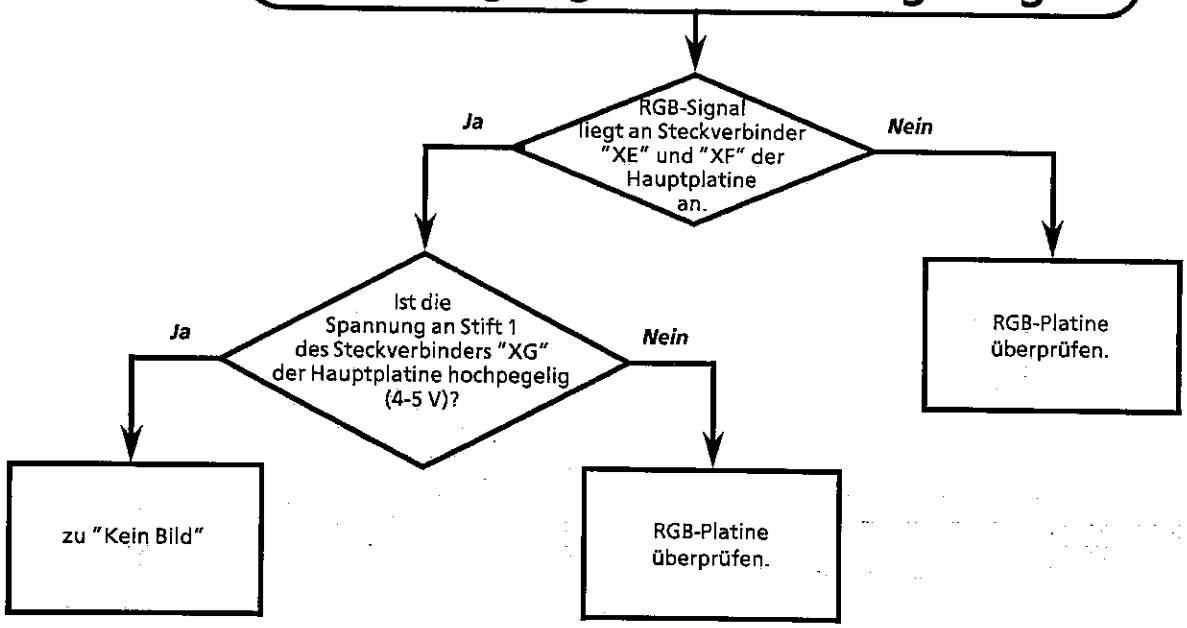
IC606 auf der Hauptplatine sowie den Peripherie-Schaltkreis der Zusatzplatine überprüfen.

Ja

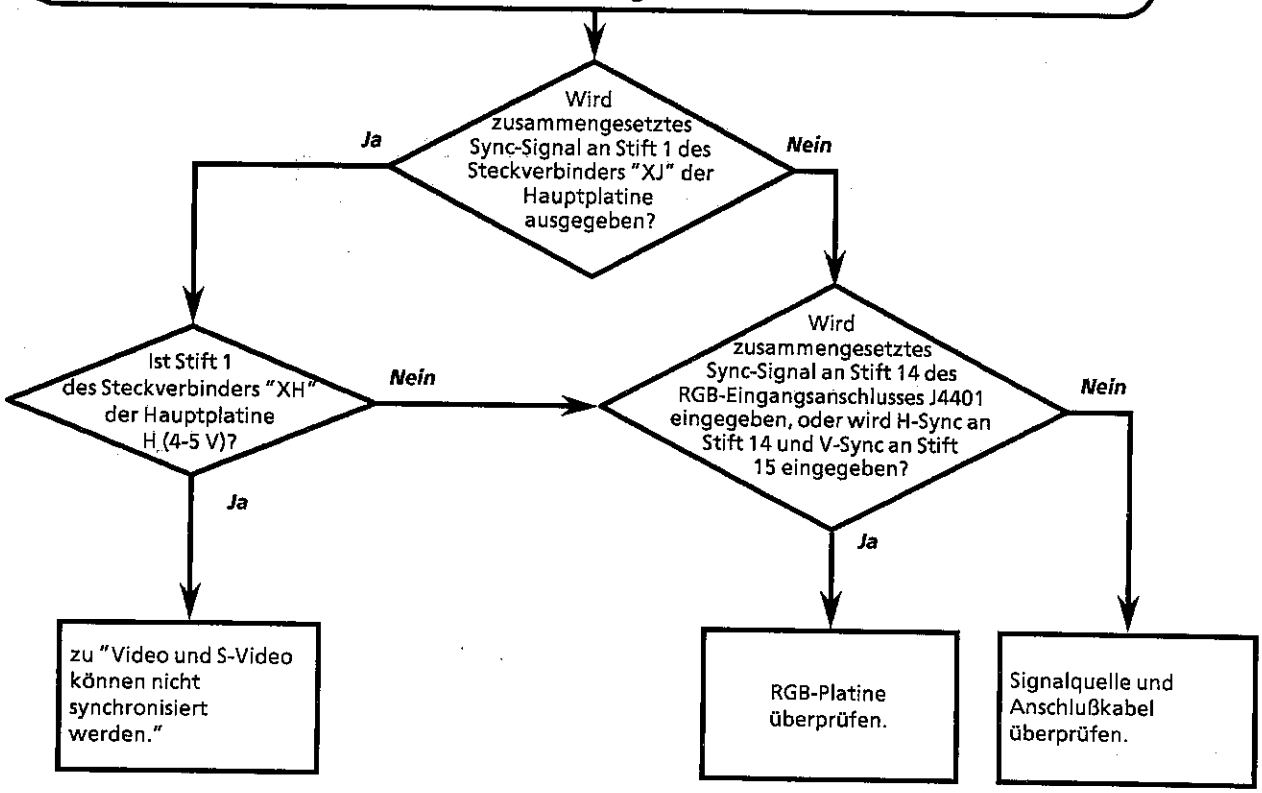
LCD-Tafel Die Frequenzphase des Vertikal-Sync-Signals erneut überprüfen.

TABELLE FÜR STÖRUNGSSUCHE (Fortgesetzt)

RGB-Eingang wird nicht angezeigt.



RGB-Eingang kann nicht synchronisiert werden.


Wird zusammengesetztes Sync-Signal an Stift 1 des Steckverbinders "XJ" der Hauptplatine ausgegeben?
Ja
Nein
Ist Stift 1 des Steckverbinders "XH" der Hauptplatine H (4-5 V)?
Nein
Ja
Wird zusammengesetztes Sync-Signal an Stift 14 des RGB-Eingangsanschlusses J4401 eingegeben, oder wird H-Sync an Stift 14 und V-Sync an Stift 15 eingegeben?
Nein
Ja
zu "Video und S-Video können nicht synchronisiert werden."
RGB-Platine überprüfen.
Signalquelle und Anschlußkabel überprüfen.

EINSTELLUNG VERSCHIEDENER TEILE

Vorbereitung

(1) Überprüfung der Netzspannung
Nennspannung (Wechselstrom 120 V) ist richtig angelegt, (jeder Gleichstrom-Ausgang, vom Netzgerät)

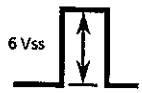
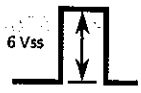
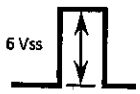
(2) Überprüfung des Signals
1) RGB-Signaleingang
Richtige Gleichstrom- und Wechselstrompegel sind angelegt. (Siehe Wellenform-Darstellung 13, 14 und 15.)
2) Sync-Signaleingang
Zusammengesetztes Sync-Signal (positive Polarität), richtig synchronisiert mit RGB-Signal, liegt am Anschluß an.
Das Eingangssignal muß Standard (15,734 kHz) sein. (Siehe Wellenform-Darstellung 16.)

- Standard-Einstellmodus: Die Videostandardtaste (S2015) einschalten.
- Farbbalkensignal: Den Farbbalken des Farbgenerators eingeben.
- Monoskopsignal: Einen Mustergenerator, der über einen Monoskopmodus verfügt, verwenden.
Monoskopmuster und -generator (Referenz)

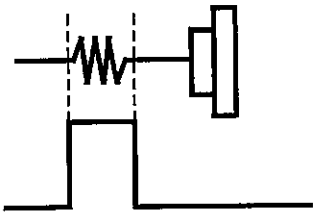
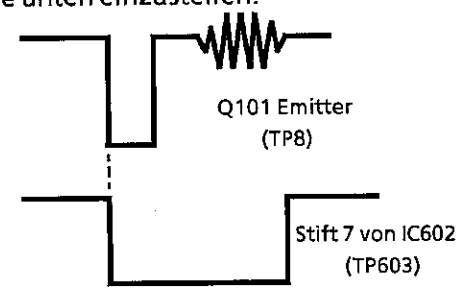
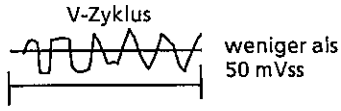
Einstellung der Digitalplatine

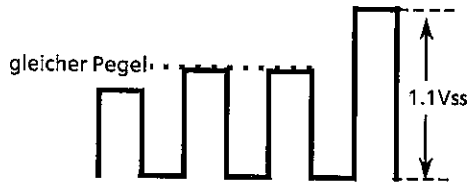
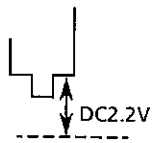
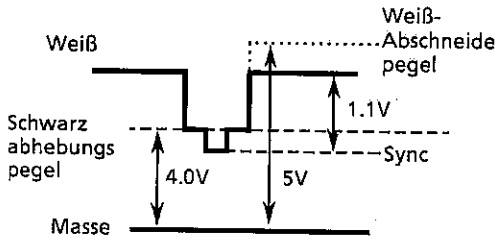
	Gegenstand	Einstellbedingungen	Einstellverfahren
1	Referenzspannung R6020	Ein Digitalvoltmeter zwischen TP-6001 und Masse anschließen.	Mit R6020 auf 3,0 ± 0,1 V einstellen.
2	PLL-Einstellung T6001	1) SW6001 zur Ein-Seite legen. 2) T6001 so einstellen, daß die Frequenz des Doppelgeschwindigkeits-RGB-Signals und die des Doppelgeschwindigkeits-Sync-Signals (2H ··· negative Polarität) gleich sind.	1) Wenn ein Zähler verwendet wird, die Frequenz von TP-6003 auf 31,468 ± 0,06 kHz einstellen.

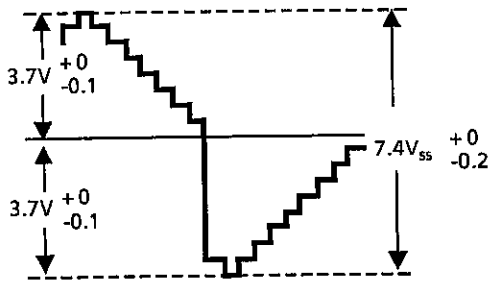
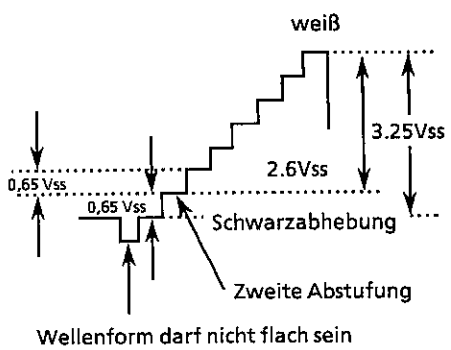
Einstellung der Steuerplatine

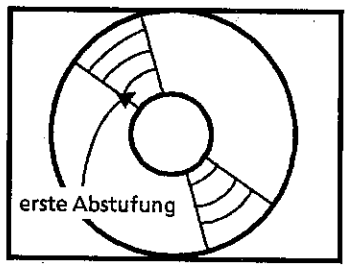
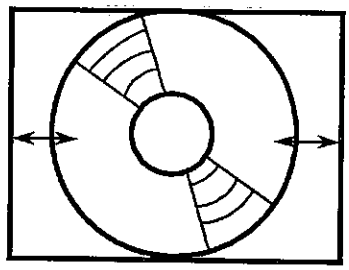
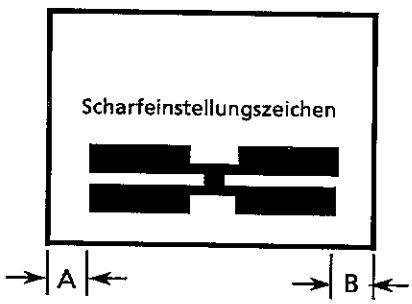
	Gegenstand	Einstellbedingungen	Einstellverfahren
1 2 3	Phasenpegel R1014 H-HOLD L1001 Phaseneinstellung R1001	1) Stift 2 des SC-Steckverbinders (TP1004) und Masse (TP1005) kurzschließen, um Selbsterregung zu erhalten. 2) Ein Monoskopsignal eingeben. 3) Den Kurzschluß von 1) entfernen.	R1014 so einstellen, daß die Spannung an TP1003 (Stift 32 von IC1001) 2,2 V ± 0,05 V beträgt. L1001 so drehen, daß das Bild steht. H-Mitte auf dem Bild mit R1001 einstellen.
4	Zählerelektrode, Amplituden-Einstellung R (R1483)	1) Ein Monoskopsignal eingeben. 2) Ein Oszilloskop an Stift 13 (TP1405) der R-LCD-Tafel anschließen.	R1483 drehen, um Amplituden-Wellenform der Zähler-Elektrode auf 6,0 Vss ± 0,1 Vss einzustellen. 
5	Zählerelektrode, Amplituden-Einstellung G (R1495)	1) Ein Monoskopsignal eingeben. 2) Ein Oszilloskop an Stift 13 (TP1406) der G-LCD-Tafel anschließen.	R1495 drehen, um Amplituden-Wellenform der Zähler-Elektrode auf 6,0 Vss ± 0,1 Vss einzustellen. 
6	Zählerelektrode, Amplituden-Einstellung B (R1489)	1) Ein Monoskopsignal eingeben. 2) Ein Oszilloskop an Stift 13 der B-LCD-Tafel (TP1404) anschließben.	R1489 drehen, um Amplituden-Wellenform der Zähler-Elektrode auf 6,0 Vss ± 0,1 Vss einzustellen. 
7	Zählerelektrode, Amplituden-Einstellung R (R1486)	1) Ein Monoskopsignal eingeben. 2) Eine Lichtabschirmplatte auf die B- und G-LCD-Tafel legen, um die Einzelfarbe R zu erhalten.	R1486 drehen, um den maximalen Kontrast zu erhalten.
8	Zählerelektrode, Amplituden-Einstellung G (R1498)	1) Ein Monoskopsignal eingeben. 2) Eine Lichtabschirmplatte auf die B- und R-LCD-Tafel legen, um die Einzelfarbe G zu erhalten.	R1498 drehen, um den maximalen Kontrast zu erhalten.
9	Zählerelektrode, Amplituden-Einstellung B (R1492)	1) Ein Monoskopsignal eingeben. 2) Eine Lichtabschirmplatte auf die G- und R-LCD-Tafel legen, um die Einzelfarbe B zu erhalten.	R1492 drehen, um den maximalen Kontrast zu erhalten.
10	R-CLK Vorspannung R1069	1) Ein Monoskopsignal eingeben. 2) Eine Lichtabschirmplatte auf die B- und G-LCD-Tafel legen, um die Einzelfarbe R zu erhalten.	R1069 drehen, um die Gleichspannung am R-Steckverbinder Stift 2 (TP1011) der LCD auf 2,3 V einzustellen, und sicherstellen, daß keine Störungen auf dem Bildschirm vorhanden sind.
11	G-LCK Vorspannung R1071	1) Ein Monoskopsignal eingeben. 2) Eine Lichtabschirmplatte auf die B- und R-LCD-Tafel legen, um die Einzelfarbe G zu erhalten.	R1070 drehen, um die Gleichspannung am G-Steckverbinder Stift 2 (TP1012) der LCD auf 2,3 V einzustellen, und sicherstellen, daß keine Störungen auf dem Bildschirm vorhanden sind.
12	B-CLK Vorspannung R1071	1) Ein Monoskopsignal eingeben. 2) Eine Lichtabschirmplatte auf die G- und R-LCD-Tafel legen, um die Einzelfarbe B zu erhalten.	R1071 drehen, um die Gleichspannung am B-Steckverbinder Stift 2 (TP1013) der LCD auf 2,3 V einzustellen, und sicherstellen, daß keine Störungen auf dem Bildschirm vorhanden sind.

Einstellung der Hauptplatine

	Gegenstand	Einstellbedingungen	Einstellverfahren
1	Klemmimpuls-Phaseneinstellung R614	1) Das Farbbalkensignal eingeben. 2) Ein Oszilloskop an TP604 (Stift 6 von IC603) und TP804 (Stift 31 von IC801) anschließen.	R614 drehen, um die Klemmimpulsphase auf die Burstsignalphase einzustellen. 
2	H-BLK Phaseneinstellung R609	1) Das Farbbalkensignal eingeben. 2) Ein Oszilloskop an TP603 (Stift 7 von IC602) und TP8 (Emitter von Q101) anschließen.	R609 drehen, um die Wellenformphase wie unten einzustellen. 
3	Einstellund für automatische Schwarzabhebung -Steuerung R820	1) Die Farben auf die nachstehende Weise ausschalten. 2) Die Basis von Q420 mit Masse kurzschließen. 3) Einen Farbbalkensignal-Generator anschließen, den Farbburstschalter ausschalten und das Farbbalkensignal mit herausgetastetem Farrbburstsignal eingeben. 4) Einen Widerstand von 5,6 kOhm zwischen Stift 15 (TP2403) von IC801 und der 9V Spannungsleitung anschließen.	R820 drehen, um einen Punkt einzustellen, wo der Balkenpol verschwindet.
4	Dynamikkamm-filter-Einstellung R2458 R2461 R2472 C2476 R2493 R2499	1) Das Farbbalkensignal eingeben. 2) Ein Oszilloskop an TP401 (Stift 1 von IC403) und 402 (Stift 3 von IC403) anschließen und am Oszilloskop den Modus "ADD" einstellen. 3) Ein Oszilloskop an TP402 (Stift 3 von IC403) und 403 (Stift 5 von IC403) anschließen und am Oszilloskop den Modus "ADD" einstellen. 4) Ein Oszilloskop an TP404 (Emitter von Q466) anschließen.	R2458 und R2461 drehen, um die Wellenform auf Minimum einzustellen. R2472 und C2476 drehen, um die Wellenform auf Minimum einzustellen. R2493 und R2499 drehen, um den Chroma-Pegel der Y-Wellenform auf Minimum einzustellen.
5	Vertikalrauschen-Einstellung R2417 T2401	1) Das Farbbalkensignal eingeben. 2) Ein Oszilloskop zwischen Stift 6 (TP2403) von IC2401 und Masse anschließen.	 R2417 und T2401 abwechselnd drehen, um die Amplitude der Wellenform auf Minimum einzustellen.

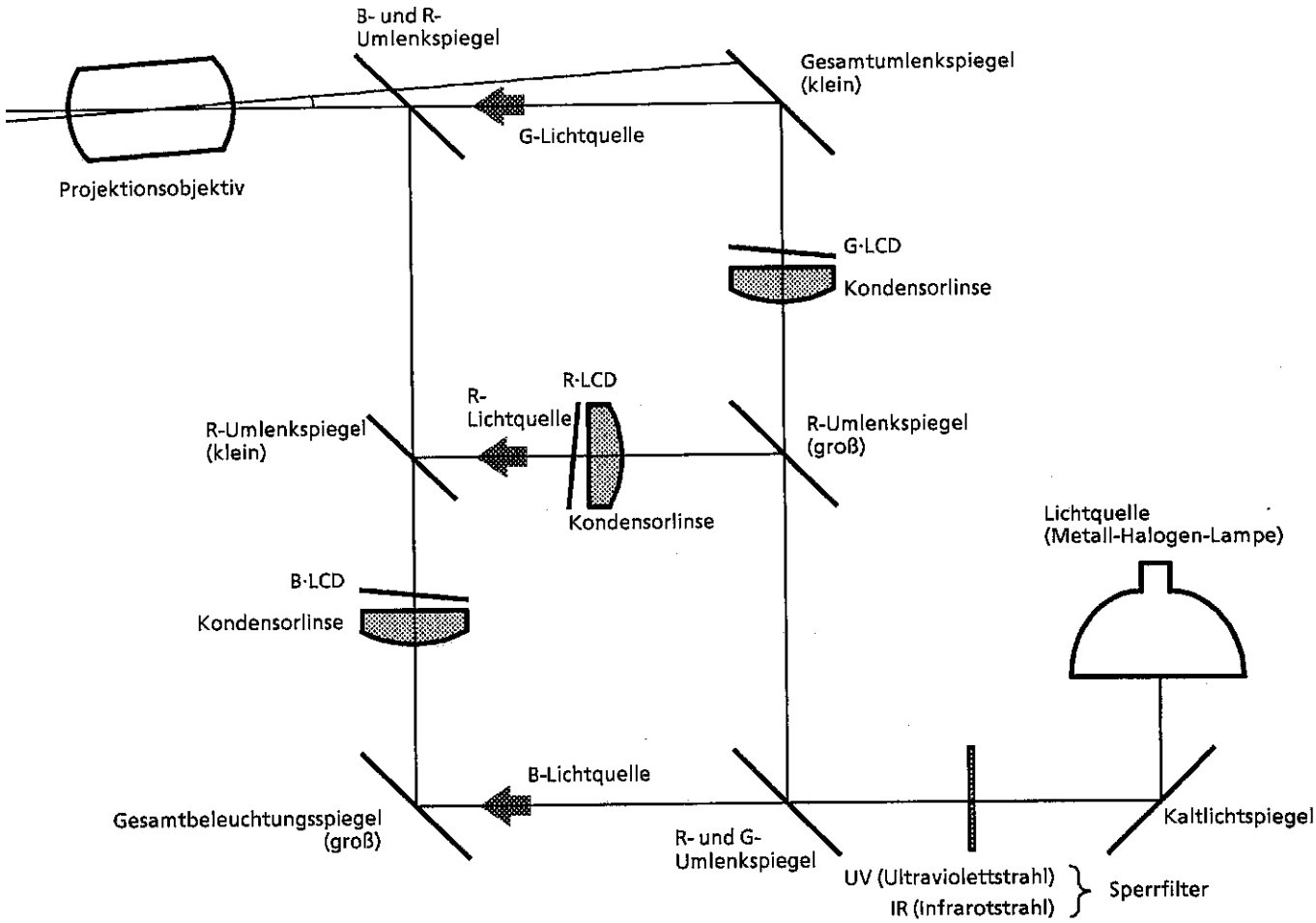
	Gegenstand	Einstellbedingungen	Einstellverfahren
6 7	Farbton-Einstellung 1 R827 Einstellung der Farbtiefe R822	1) Das Farbbalkensignal durch den S-Eingangsanschluß eingeben. 2) Den Modus "RESET" einstellen. (S2015 einschalten.) 3) Ein Oszilloskop an TP806 (Stift 22 von IC801) anschließen und die B-Y-Wellenform beobachten.	R827 drehen, um die unten dargestellte Wellenform einzustellen. R822 drehen, um die Amplitude der Wellenform auf 1,1 Vss ± 0,1 Vss einzustellen. 
8	Farbton-Einstellung 2 R675	1) Das Farbbalkensignal (FBAS) eingeben. 2) Den Modus "RESET" einstellen (Stift 22 von IC801). 3) Ein oszilloskop an TP806 (stift 22 von IC801) anschließen.	R675 drehen, um die gleiche Einstellung wie die Farbton-Einstellung 1 zu erhalten.
9	Einstellung der automatischen Verstärkungsregelung R1603	1) Des Farbbalkensignal eingeben. 2) Ein Oszilloskop an TP51 (Stift 7 von IC1601) anschließen.	Den Gleichstrompegel im Schwarzabhebungsteil der Y-Signal-Wellenform mit R1603 auf Gleichstrom 2,2 V ± 0,05 V einstellen. 
10	Video-Einstellung R855 (Schwarzabhebung) R857 (Kontrast) R2820	1) Das Farbbalkensignal eingeben. 2) Ein Oszilloskop an TP1 (Stift 5 des DI-Steckverbinders) anschließen.	1) R855 drehen, um den Schwarzabhebungspegel der Wellenform auf 4V ± 0,1V einzustellen. 2) R857 drehen, um die video-Amplitude (Schwarzabhebung-Weiß) auf 1,3 Vss einzustellen. 3) R2820 drehen, um den Weiß-Abschneidepegel auf 5 V ± 0,1 V einzustellen. 4) R857 drehen, um den Sync-Weißpegel auf 1,1 Vss ± 0,05 Vss einzustellen. 

	Gegenstand	Einstellbedingungen	Einstellverfahren
11	Abschneidepegel R1532 R1534	1) Ein Oszilloskop an TP4 (Stift 5 des SB-Steckverbinders) anschließen. (G-OUT) 2) R1414 drehen, um SYNC-SYNC auf 8V ± 0,2V einzustellen. R1532 und R1534 drehen, um so einzustellen, daß der obere und untere Abschneidepegel 3,7 + 0 bzw. −0,1 V von der Mitte der Ausgangswellenform entfernt ist.	R1532 drehen, um den Abschneidepegel der oberen Wellenform auf 3,7 + 0, −0,1 V einzustellen. Den Abschneidepegel der unteren Wellenform mit R1534 auf 3,7 + 0, −1 V einstellen. So einstellen, daß die obere und untere Wellenform gleichermaßen in Kontakt mit der Begrenzungslinie sind, und den Gesamt-Abschneidepegel auf 7,4 + 0, − 2 Vss einstellen. Denn R1414 auf etwa die Mitte drehen. 
12	Zusatz-Helligkeit R2178 Zusatz-Kontrast R1472 Gamma-Position R1426 Gamma-Verstärkung R1424	1) Ein Abstufung-10-Signal (Farbe unterdrückt) eingeben. 2) Den Modus "RESET" einstellen.	1) R1426 auf Maximum einstellen. 2) Ein Digitalvoltmeter an TP53 (Stift 47 von IC1401) anschließen. 3) Die Anzeige des Digitalvoltmeters mit R1424 auf Gleichstrom 3,5 V ± 0,1 V einstellen. 4) Ein Oszilloskop an TP4 (SB-Steckverbinder Stift 5) anschließen. 5) Die Amplitude von Schwarzabhebung-Weiß mit R1472 auf 2,6 V einstellen. Dabei darf der untere Teil der Wellenform nicht mit der Begrenzungslinie in Kontakt sein. Falls Kontakt vorhanden ist, dies mit R1414 korrigieren. 6) Durch Drehen von R1426 mit R2178 so einstellen, daß die zweite Abstufung der Wellenform sich nicht ändert. 7) Mit R1426 und R1424 auf die unten dargestellte Wellenform einstellen. 8) Nach der Einstellung die Signalmeßvorrichtung entfernen. 

	Gegenstand	Einstellbedingungen	Einstellverfahren
13	Einstellung der Helligkeit (R-, G-, B-Sperr-Zusatz-Vorspannung) R1414	1) Ein Monoskopsignal eingeben. 2) Eine Lichtabschirmplatte auf die R- und B-LCD legen, um die Einzelfarbe G zu erhalten.	 Mit R1414 auf den Punkt einstellen, wo die erste Abstufung des Monoskopmusters dunkel wird.
14	Weißbalance (1) R1435 R1421	Ein Oszilloskop an SB1 (TP2) und SB5 (TP4) des Steckverbinders (Umwandlung) anschließen und eine Wellenform des ADD-Modus (Hinzufügung) bereitstellen.	R1435 und R1421 drehen, um die Wellenform auf Minimum einzustellen.
15	Weißbalance (2) R1417 R1437	Ein Oszilloskop an SB3 (TP3) und SB5 (TP4) des Steckverbinders (Umwandlung) anschließen und eine Wellenform des ADD-Modus (Hinzufügung) bereitstellen.	R1417 und R1437 drehen, um die Wellenform auf Minimum einzustellen.
16	H-CENTER R1001	1) Ein Monoskopsignal eingeben.	So einstellen, daß das Overscanning an beiden Seiten des Bildschirms gleich ist. 
17	Zeichenpositionseinstellung auf einer Bildschirm-Anzeige T2001	S2008 Scharfeinstellungszeichen-Schalter drücken, um ein Scharfeinstellungszeichen auf dem Bildschirm zu erhalten.	 Mit T2001 einstellen, so daß A = B wird.

EINSTELLUNG DES OPTISCHEN SYSTEMS

Grundlagen der Einstellung des optischen Systems



1. Ausrichtung der optischen Achse

R: Lichtquelle → R/G-Umlenkspiegel → R-Umlenkspiegel (groß) → R-Umlenkspiegel (klein) → B/R-Umlenkspiegel → Projektionsobjektiv

B: Lichtquelle → Gesamtumlenkspiegel (klein) → B/R-Umlenkspiegel → Projektionsobjektiv

G: Lichtquelle → R/G-Umlenkspiegel → Gesamtumlenkspiegel (klein) → Projektionsobjektiv

Wie aus der Abbildung ersichtlich, besteht die optische Einstellung in der Ausrichtung der Winkel der einzelnen Farbumlenkspiegel.

Das Licht ist nach dem Passieren der Kondensorlines ein paralleler Strahl. Daher erfordert der Spiegel hinter der Kondensorlinse eine hohe Präzision, und zur Erfüllung dieser Anforderung verwendet die Konstruktion einen kleinen Spiegel. Hier wird der G-Strahl als Basis verwendet.

2. Einstellung der LCD-Parallelität

R: R-LCD → R-Umlenkspiegel (klein) → B/R-Umlenkspiegel → Projektionsobjektiv

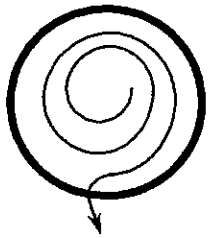
G: G-LCD → Gesamtumlenkspiegel (klein) → Projektionsobjektiv

B: B-LCD → B/R-Umlenkspiegel → Projektionsobjektiv

Der Abstand vom Projektionsobjektiv ist wichtig, weil er den Bildschirmwinkel und die Schärfe beeinflußt. Wenn hier nur die Parallelität eingestellt werden soll, wurden die einzelnen Spiegel bereits bei der Einstellung der optischen Achse eingestellt, so daß nur die LCDs für jede einzelne Farbe eingestellt werden müssen.

Reinigung von Objektiv und Spiegel

1. Objektivreinigung



※ Reinigungsflüssigkeit
Sie sollte aus Alkohol und Äther bestehen. Das Mischverhältnis entsprechend der Temperatur ändern. Die Reinigungsflüssigkeit sollte unmittelbar bei der Anwendung trocknen. Sie trocknet schneller, wenn sie mehr Äther enthält.

※ Reinigungsverfahren
Gebleichte Baumwolle oder im Fachhandel erhältliches Reinigungspapier wird empfohlen. Die Linse zwischen Zeigefinger und Daumen halten und den Staub mit Baumwolle, die mit der Flüssigkeit befeuchtet wurde, unter Drehen der Linse von der Mitte nach außen abwischen. Keinen Druck auf die vergütete Seite ausüben.

2. Spiegelreinigung

Die Spiegel sind bedampft, daher keinen Druck darauf ausüben. Kleine Schmutzpartikel mit Alkohol lösen und mit einem trockenen Tuch abwischen. Der Reinigungsflüssigkeit keinen Äther beimischen.

3. Zur Beachtung

Verschmutzung auf beiden Seiten der LCD-Tafel und der LCD-Seite der Kondensorlinse hat stärkere Auswirkungen, daher müssen diese Teile sorgfältig gereinigt werden.

Einstellung nach dem Auswechseln des LCD (Flüssigkristalldisplay)

Einstellung der LCD-Ablenkplatte

1. Erforderliches Werkzeug und Instrument

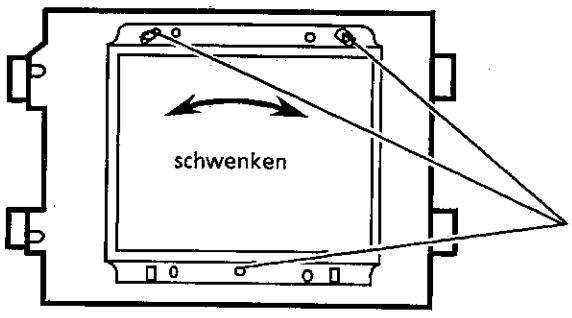
1) Mustergenerator
2) normale Lichtquellee (Beispiel: Hintergrundabschnitt von LCD-Fernsehgerät)

2. Einstellposition

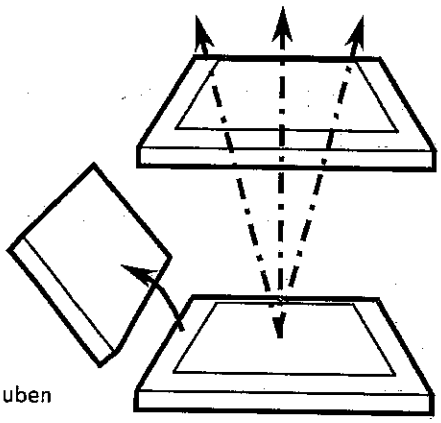
visuelle Überprüfung

3. Einstellverfahren

1) Ein Schwarzsignal in den Videoeingang eingeben.
2) Die drei Metallschrauben für die Ablenkplatte lösen.



drei Metallschrauben



LCD-Fernsehplatte entfernen und Hintergrundbeleuchtung als Lichtquelle verwenden.

Nach der Augenposition suchen, wo das Licht am dunkelsten ist, und dort feststellen. Dann die folgende Einstellung durchführen.

3) Eine Lichtquelle anwenden und die Ablenkplatte nach rechts und links schwenken und an der dunkelsten Position befestigen.
4) Die Schrauben anziehen.

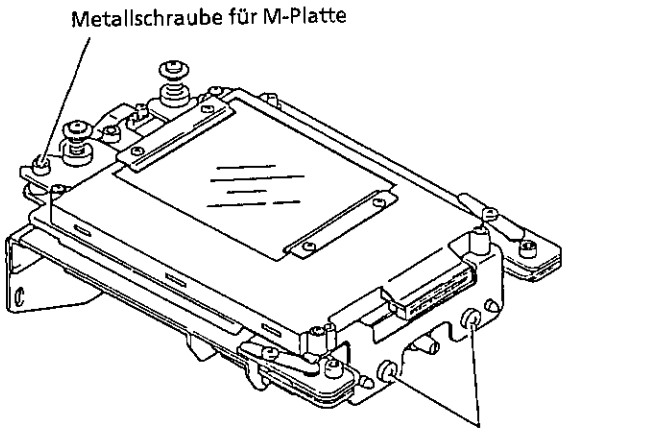
X- und Y-Einstellung

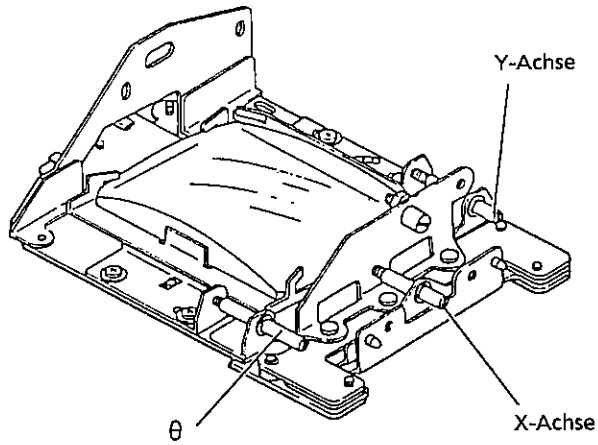
1. Werkzeuge

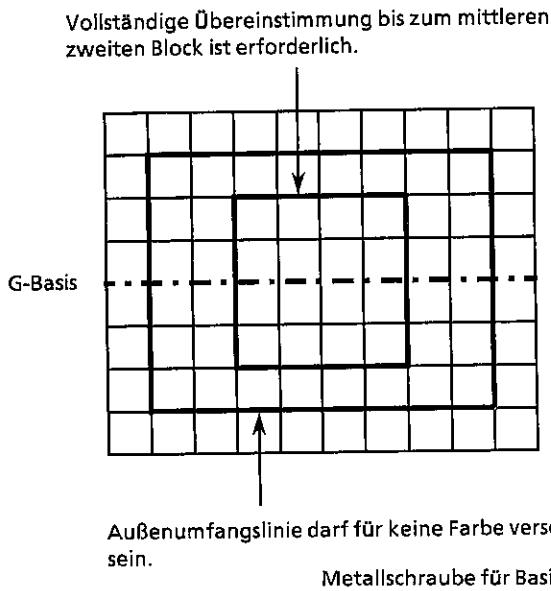
1) Lichtabschirmplatte (dicke Pappe zur Abschirmung der Lichtquelle)
2) Standardobjektiv

Einstellprinzip

Die obere und untere Position des R- und B-Bildes wird auf der Basis von G eingestellt. Unten ist die Konstruktion dargestellt, bei der der LCD-Empfänger sich unabhängig von der Basis in X- und Y-Richtung bewegt.





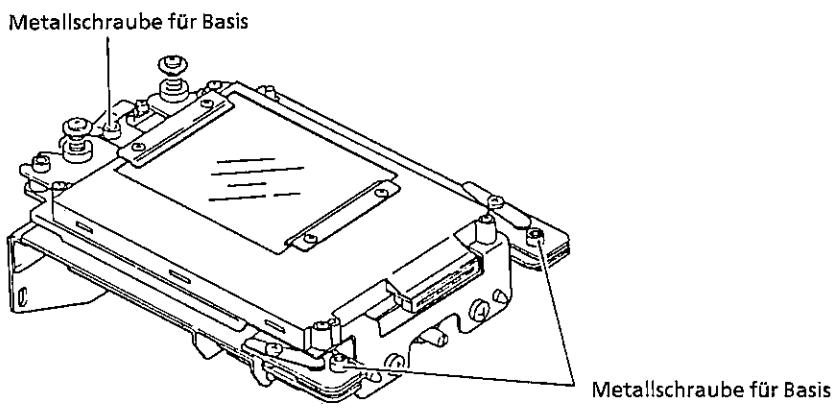

Vollständige Übereinstimmung bis zum mittleren zweiten Block ist erforderlich.
G-Basis
Außenumfangslinie darf für keine Farbe versetzt sein.

2. Einstellpunkte

1) R und B auf G auf ihrer Basis anwenden.
2) Das Projektionsmuster bis zum mittleren zweiten Block muß vollständig übereinstimmen.
3) Die Außenumfangslinie darf für keine Farbe versetzt sein.

Vorbereitung vor der Einstellung

1) Die insgesamt drei Sechskant-Metallschrauben an beiden Seiten der LCD-Basis lösen.
2) Das Gittersignal in den Videoeingang eingeben.



3. Einstellung

R-G-Ausrichtung

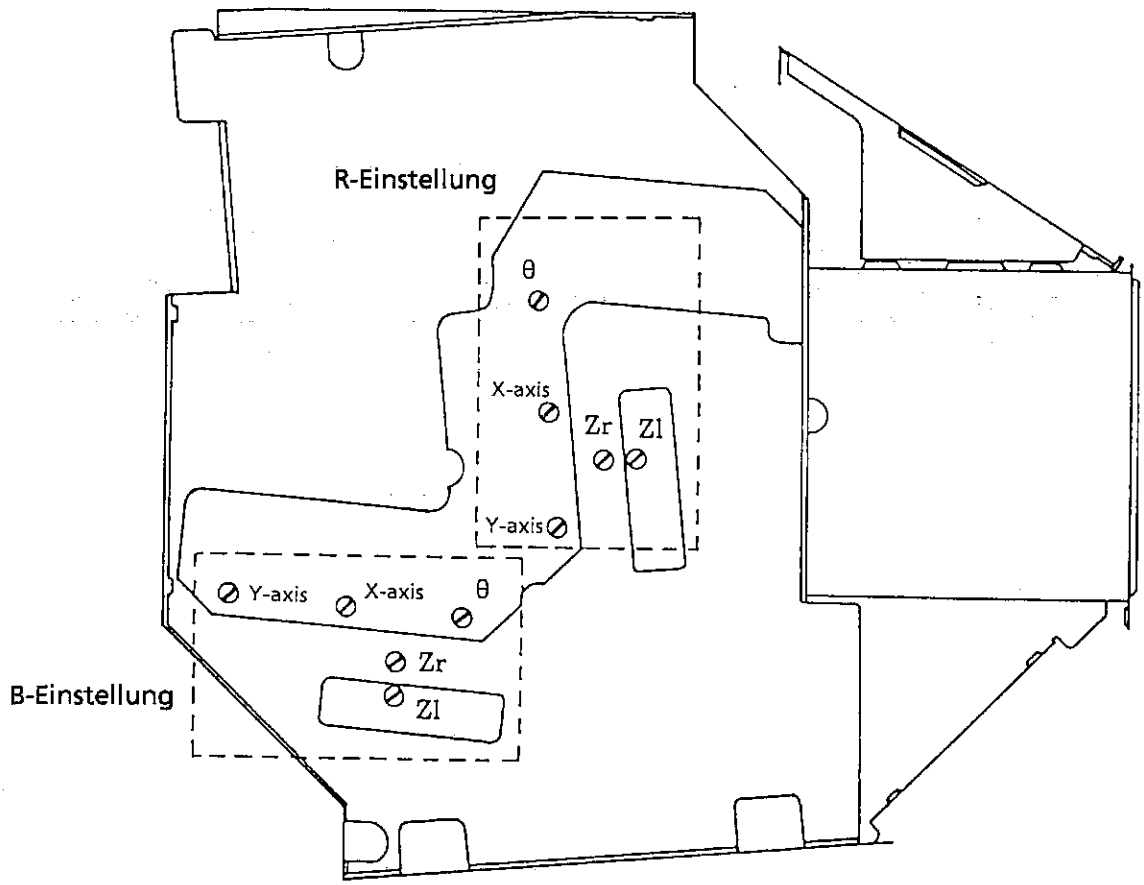
1) Eine Lichtabschirmplatte auf das B-LCD legen. (B-Lichtquelle abdecken)
   Den R-Block auf den G-Block legen. Die X-Achse in horizontaler und die Y-Achse in vertikaler Richtung einstellen.

Die Neigung um θ einstellen.

B-G-Ausrichtung

1) Eine Lichtabschirmplatte auf das R-LCD legen. (B-Lichtquelle abdecken)
   Den B-Block auf den G-Block legen. Die X-Achse in horizontaler und die Y-Achse in vertikaler Richtung einstellen.

Die Neigung um θ einstellen.



Rot und Blau

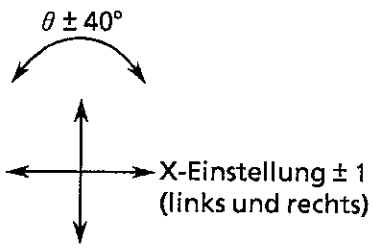
Drehung	Uhrzeigersinn	entgegen Uhrzeigersinn
X-Achse	Nach links versetzen.	Nach rechts versetzen.

Rot

Drehung	Uhrzeigersinn	entgegen Uhrzeigersinn
Y-Achse	abwärts	aufwärts

Blau

Drehung	Uhrzeigersinn	entgegen Uhrzeigersinn
Y-Achse	aufwärts	abwärts



Rot

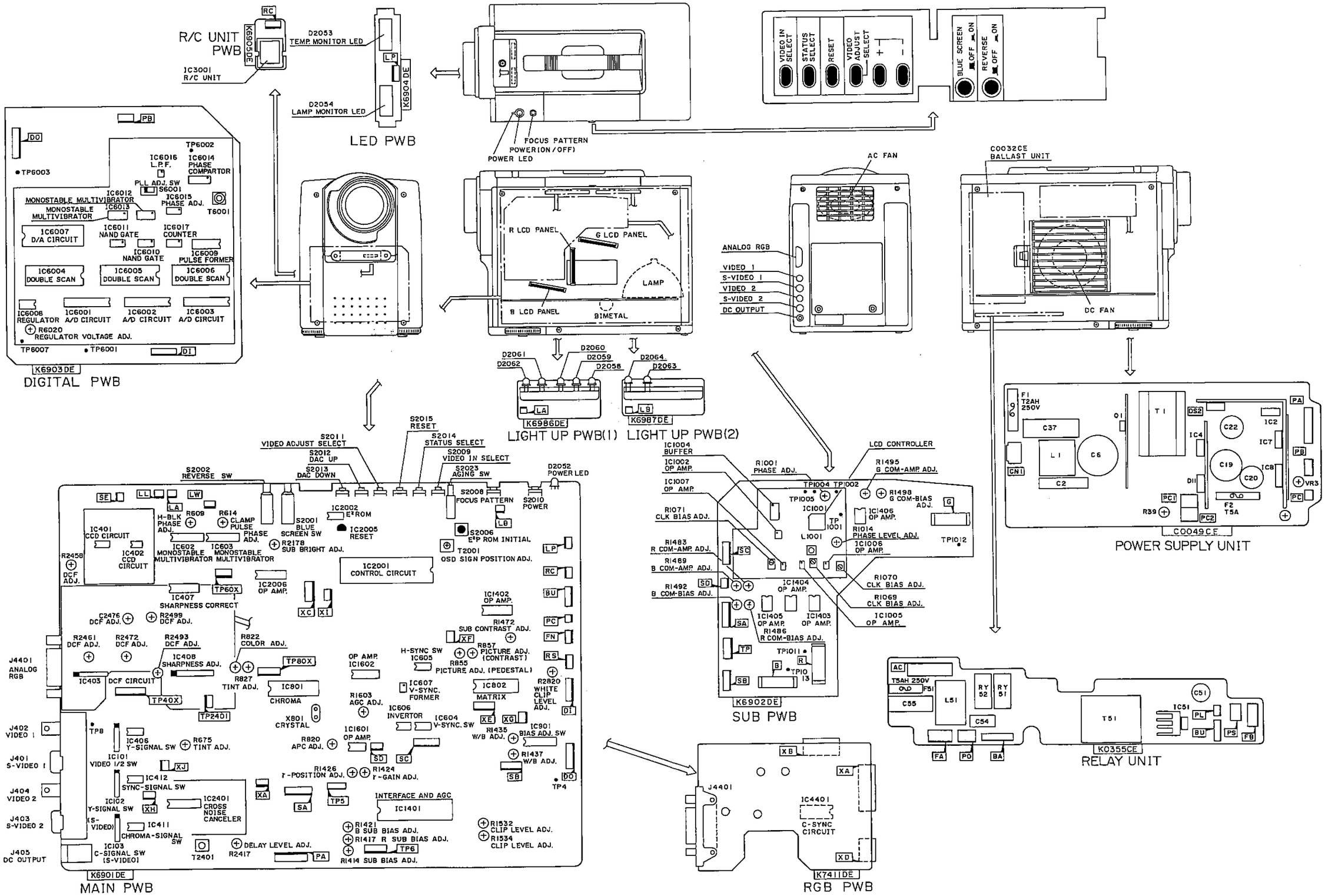
Drehung	Uhrzeigersinn	entgegen Uhrzeigersinn
θ		

Blau

Drehung	Uhrzeigersinn	entgegen Uhrzeigersinn
θ		

Grün: fest

CHASSIS LAYOUT / CHASSISANORDNUNGSPLAN



DESCRIPTION OF SCHEMATIC DIAGRAM

VOLTAGE MEASUREMENT CONDITION:

1. Voltages at test points are measured at the supply voltage of AC 220V. Signals are fed by a colour bar signal generator for servicing purpose and the above voltages are measured with a 20-kohm/V tester.

WAVEFORM MEASUREMENT CONDITION:

1. Waveforms at test points are observed at the supply voltage of AC 220V. Signals are fed by a colour bar signal generator for servicing purpose.

INDICATION OF RESISTOR & CAPACITOR:

RESISTOR

1. The unit of resistance "Ω" is omitted. (K = kΩ = 1000 Ω, M = MΩ).
2. All resistors are ± 10%, unless otherwise noted. (J = ± 5%)
3. All resistors are 1/8W, unless otherwise noted.
4. All resistors are Carbon type, unless otherwise noted.
   Ⓒ: Solid Ⓦ: Cement
   Ⓢ: Oxide Film Ⓣ: Special
   Ⓝ: Metal Coating

CAPACITOR

1. All capacitors are μF, unless otherwise noted. (P = pF = μμF).
2. All capacitios are 50V, unless otherwise noted.
3. All capacitios are Ceramic type, unless otherwise noted.
   (ML): Mylar (TA): Tantalum
   (PF): Polypro Film (ST): Styrol

CAUTION:
This circuit diagram is original one, therefore there may be a slight difference from yours.

SAFETY NOTE:

1. DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACEING PARTS.
2. SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH "⚠" (▒▒▒▒▒▒▒▒) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFOMANCE OF THE SET.

BESCHREIBUNG DES SCHEMATISCHEN SCHALTPLANS

SPANNUNGSMESSUNGEN:

1. Spannungen an den Prüfpunkten werden bei einer Netzspannung von 220 V gemessen, Signale werden für die Wartung mit einem Farbbalken-Signal generator zugeführt, und Spannungen werden mit einem Meßinstrument (20 kΩ/V) ermittelt.

SIGNALFORMMESSUNGEN:

1. Die Wellenformen an den Testpunkten werden bei einer Netzspannung von 220 V verfolgt. Signale werden für die Wartung mit einem Farbbalken-Signal generator zugeführt.

BEZEICHNUNG DES WIDERSTANDS UND KONDENSATORS:

WIDERSTAND

1. Die Widerstandseinheit "Ω" wird weggelassen. (K = kΩ = 1000 Ω, M = MΩ).
2. Alle Widerstände haben ± 10%, sofern nicht anders angegeben. (J = ± 5%)
3. Alle Widerstände haben 1/8W, sofern nicht anders angegeben.
4. Alle Widerstände sind Kohletyp, sofern nicht anders angegeben.
   Ⓒ: Fest Ⓦ: Zement
   Ⓢ: Oxidfilm Ⓣ: Spezial
   Ⓝ: Metallüberzug

KONDENSATOR

1. Die Kapazitätseinheit ist μF, sofern nicht anders angegeben. (P = pF = μμF).
2. Alle Kondensatoren haben 50V, sofern nicht anders angegeben.
3. Alle Kondensatoren sind Keramiktyp, sofern nicht anders angegeben.
   (ML): Mylar (TA): Tantal
   (PF): Polyprofilm (ST): Styrol

ACHTUNG:
bei diesem Schaltplan handelt es sich um den ursprünglichen. Esönnen daher geringfügige Unterschiede zu dem Ihrem bestehen.

SICHERHEITSANMERKUNGEN:

1. VOR DEM AUSWECHSELN VON TEILEN MUSS UNBEDINGT NETZSTECKER AUS DER NETZSTECKDOSE GEZOGEN WERDEN.
2. DIE WARMEABLEITER DER HALBLEITER SOLLTEN BEIM BETRIEB DES CHASSIS ALS MÖGLICHE URSACHEN VON GEFÄHRLICHEN ELEKTRISCHEN SCHLÄGEN BETRACHTET WERDEN.

WICHTIGE SICHERHEITSANMERKUNGEN:

MIT "⚠" (▒▒▒▒▒▒▒▒) BEZEICHNETEN TEILE SIND BESONDERS WICHTIG FÜR DIE AUFRECHTERHALTUNG DER SICHERHEIT. BEIM WECHDIESER TEILE SOLLTEN DIE VORGESCHRIEBENEN TEILE IMMER VERWENDET WERDEN, UM SOWOHL DIE SICHERHEIT ALS AUCH DIE LEISTUNG DES GERÄTES AUFRECHTZUERHALTEN.

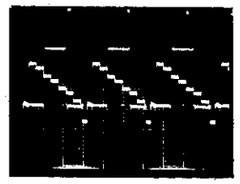


Fig. 1. Emitter of Q417
Y signal
20μs/div 0.5V/div

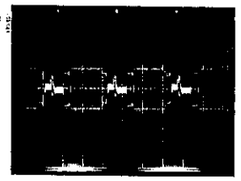


Fig. 2. Pin 31 of IC801
C signal
20μs/div 50mV/div

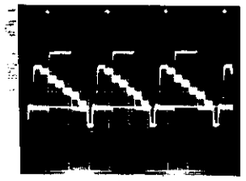


Fig. 3. Pin 4 of IC801
Sync input
20μs/div 0.5V/div

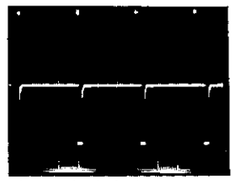


Fig. 4. Pin 28 of IC801,
Sync judgment output
20μs/div 2V/div

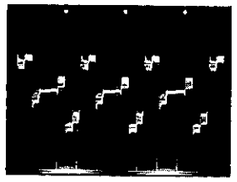


Fig. 5. Pin 20 of IC801
R-Y
20μs/div 1V/div

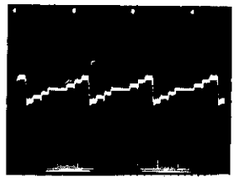


Fig. 6. Pin 21 of IC801
G-Y
20μs/div 1V/div

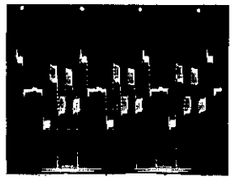


Fig. 7. Pin 22 of IC801
B-Y
20μs/div 1V/div

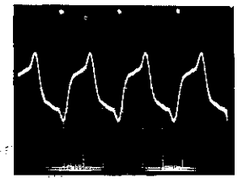


Fig. 8. Emitter of Q803
Fsc
0.1μs/div 0.2V/div

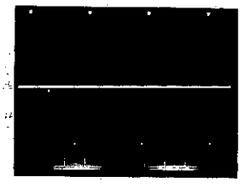


Fig. 9. Pin 7 of IC602
Blanking
20μs/div 0.2V/div

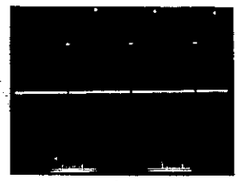


Fig. 10. Pin 6 of IC603
Clamp
20μs/div 0.2V/div

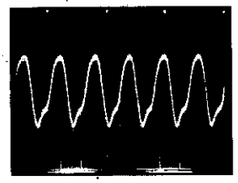


Fig. 11. Pin 6 of IC6009
28MHz, OSC OUT
20μs/div 1V/div

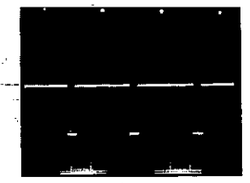


Fig. 12. Pin 7 of IC604
V-Sync
5ms/div 1V/div

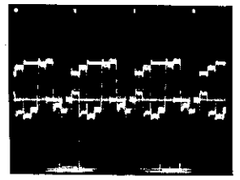


Fig. 13. Pin 3 of connector DI
RED input
20μs/div 0.5V/div

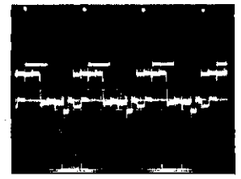


Fig. 14. Pin 5 of connector DI
GREEN input
20μs/div 0.5V/div

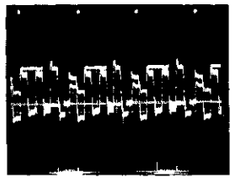


Fig. 15. Pin 7 of connector DI
BLUE input
20μs/div 0.5V/div

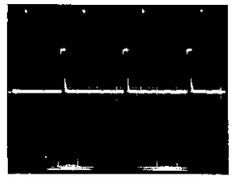


Fig. 16. Pin 1 of connector DI
H-Sync input
20μs/div 2V/div

Fig. 17. Pin 4 of connector DO
RED output
20μs/div 0.5V/div

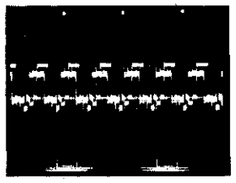


Fig. 18. Pin 6 of connector DO
GREEN output
20μs/div 0.5V/div

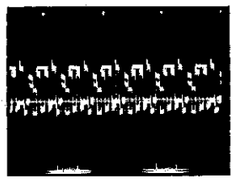


Fig. 19. Pin 8 of connector DO
BLUE output
20μs/div 0.5V/div

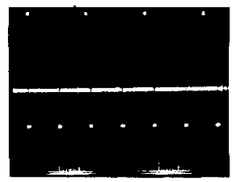


Fig. 20. Pin 1 of connector DO
2H sync output
20μs/div 2V/div

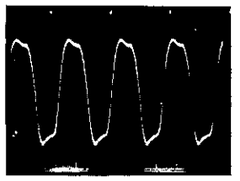


Fig. 21. Pin 2 of GREEN LCD
CKI
20ns/div 1V/div

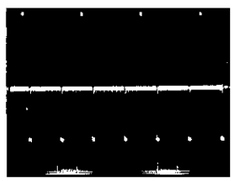


Fig. 22. Pin 4 of GREEN LCD
RES
20μs/div 2V/div

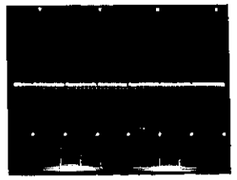


Fig. 23. Pin 9 of IC1001
HSYO
20μs/div 2V/div

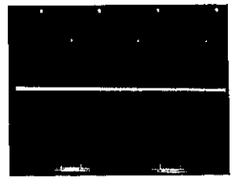


Fig. 24. Pin 14 of GREEN LCD
LCD VSYNC
5ms/div 2V/div

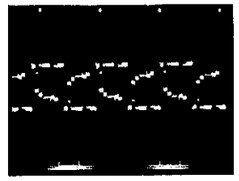


Fig. 25. Pin 3 of connector SB
RED-VIDEO
20μs/div 1V/div

Fig. 26. Pin 5 of connector SB
GREEN-VIDEO
20μs/div 1V/div

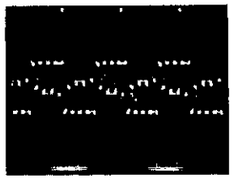


Fig. 27. Pin 1 of connector SB
BLUE-VIDEO
20μs/div 1V/div

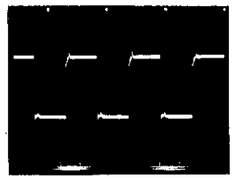
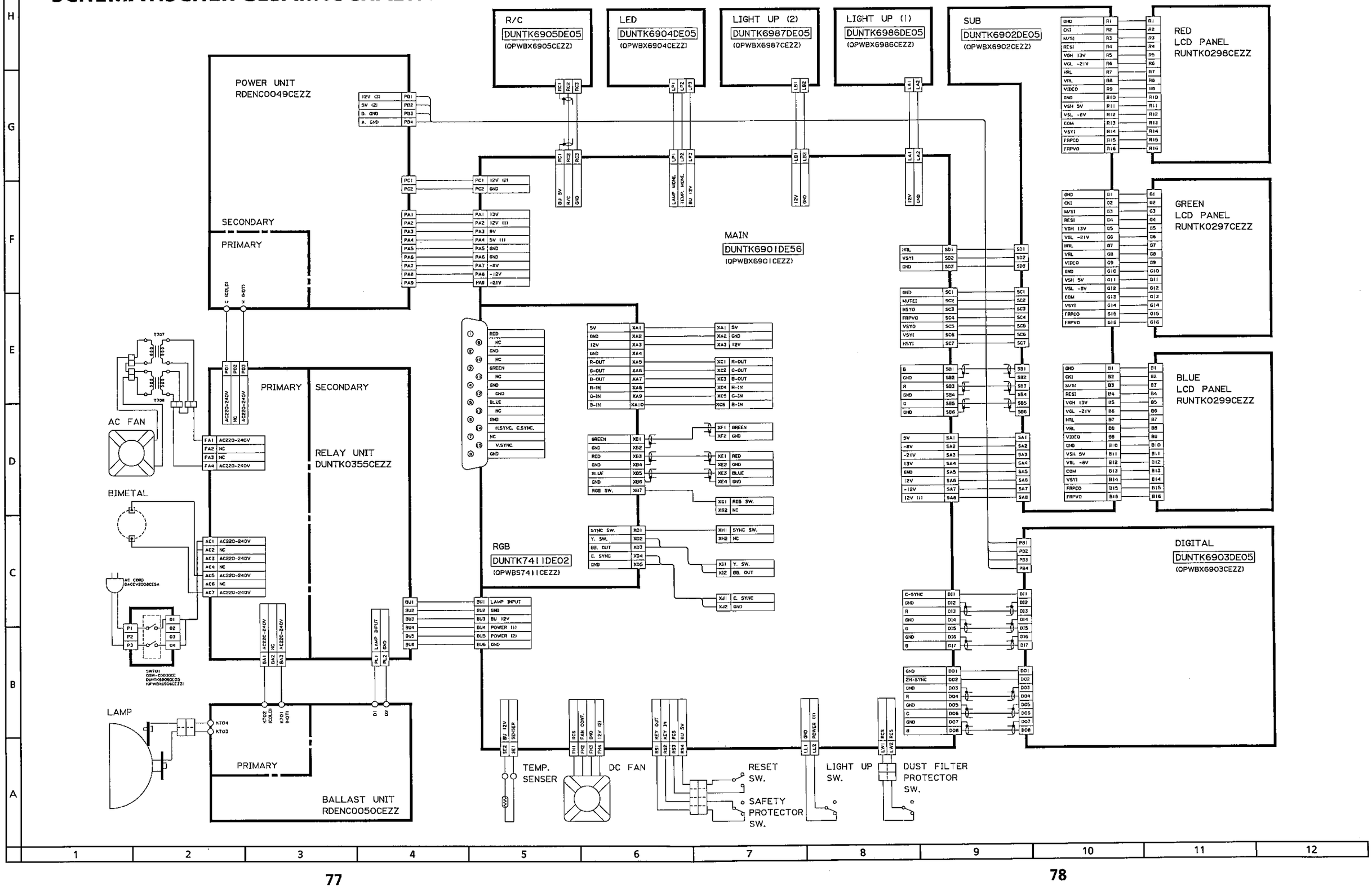


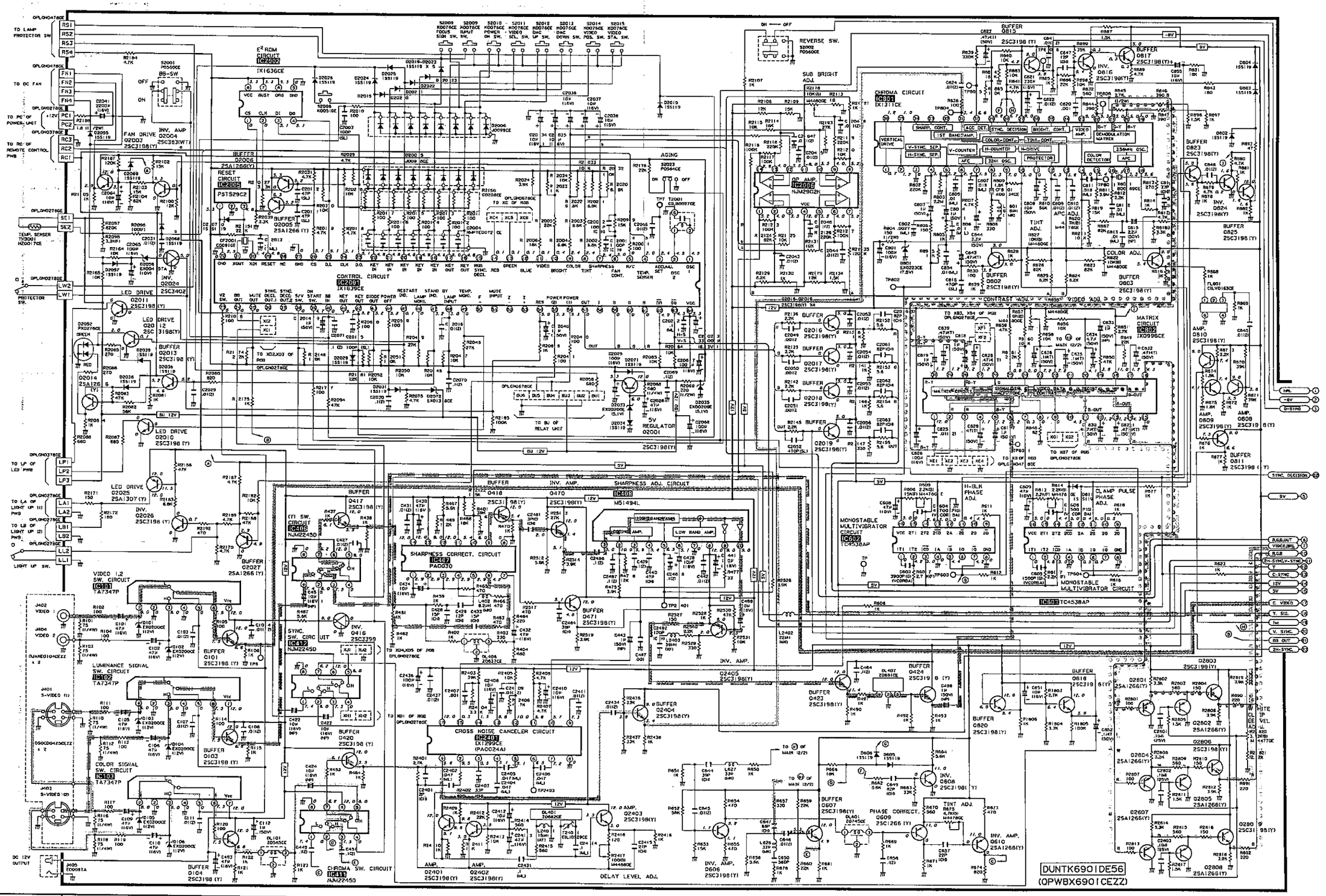
Fig. 28. Pin 13 of GREEN LCD
LCD COM
20μs/div 2V/div

OVERALL WIRING DIAGRAM / SCHEMATISCHER GESAMTSCHALTPLEN



SCHEMATIC DIAGRAM: MAIN-1 / SCHEMATISCHER SCHALTPLAN: HAUPT 1

Video Signal (Video) / Videosignal (Video)
Color Signal (C) / Farbsignal (C)
Luminance Signal (Y) / Luminanzsignal (Y)
(R-Y) R Signal / (R-Y) R-Signal
(G-Y) G Signal / (G-Y) G-Signal
(B-Y) B Signal / (B-Y) B-Signal



SCHEMATIC DIAGRAM: MAIN-2 / SCHEMATISCHER SCHALTPLAN: HAUPT 2

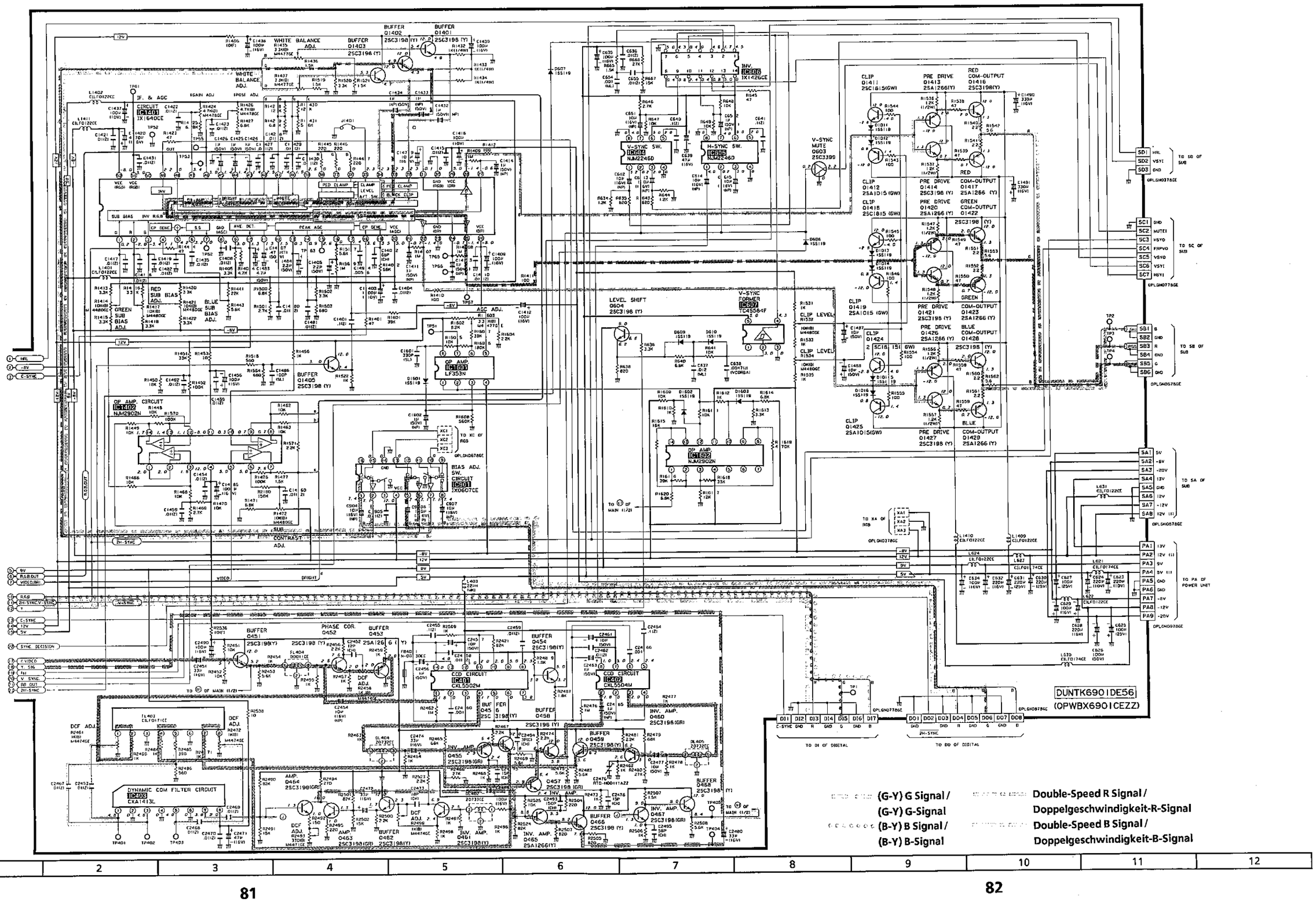
Video Signal (Video) / Videosignal (Video)

Color Signal (C) / Farbsignal (C)

Double-Speed G Signal / Doppelgeschwindigkeit-G-Signal

(R-Y) R Signal / (R-Y) R-Signal

Luminance Signal (Y) / Luminanzsignal (Y)



(G-Y) G Signal / (G-Y) G-Signal

(B-Y) B Signal / (B-Y) B-Signal

Double-Speed R Signal / Doppelgeschwindigkeit-R-Signal

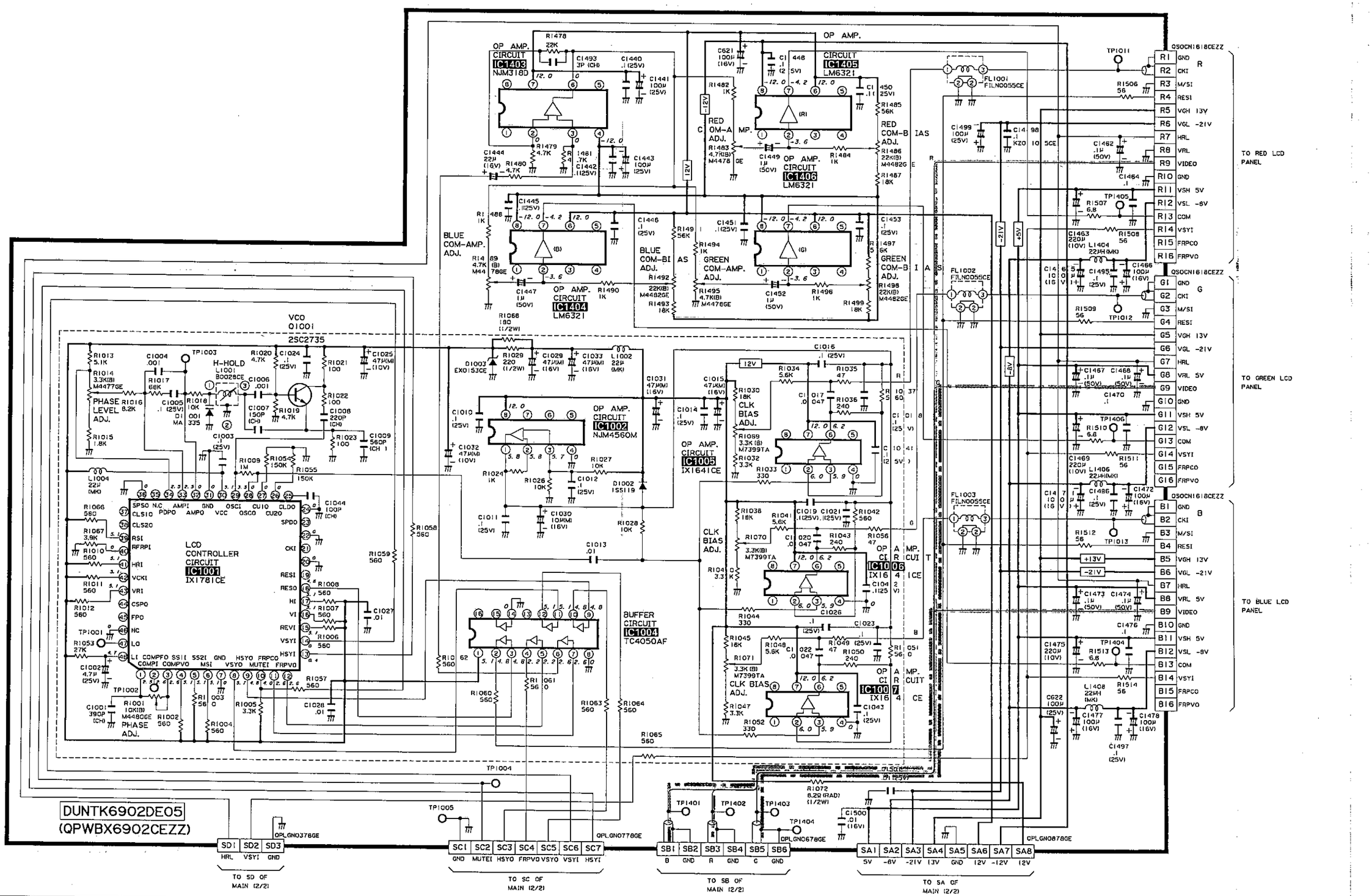
Double-Speed B Signal / Doppelgeschwindigkeit-B-Signal

SCHEMATIC DIAGRAM: SUB UNIT / SCHEMATISCHER SCHALTPLAN: ZUSATZEINHEIT

Double-Speed R Signal / Doppelgeschwindigkeit-R-Signal

Double-Speed G Signal / Doppelgeschwindigkeit-G-Signal

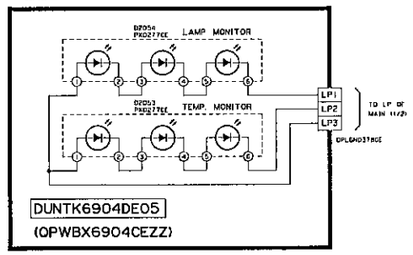
Double-Speed B Signal / Doppelgeschwindigkeit-B-Signal



SCHEMATIC DIAGRAM: DIGITAL, LED, SWITCH UNIT / SCHEMATISCHER SCHALTPLAN: DIGITAL, LED, SCHALTEINHEIT

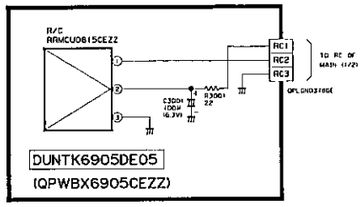
(R-Y) R Signal / (R-Y) R-Signal
(G-Y) G Signal / (G-Y) G-Signal
(B-Y) B Signal / (B-Y) B-Signal
Double-Speed R Signal / Doppelgeschwindigkeit-R-Signal
Double-Speed G Signal / Doppelgeschwindigkeit-G-Signal
Double-Speed B Signal / Doppelgeschwindigkeit-B-Signal

LED



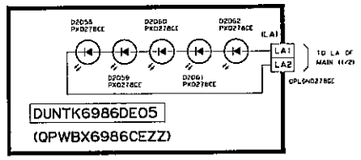
DUNTK6904DE05
(QPWBX6904CEZZ)

R/C



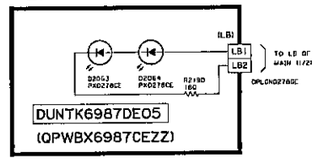
DUNTK6905DE05
(QPWBX6905CEZZ)

LIGHT UP (1)



DUNTK6986DE05
(QPWBX6986CEZZ)

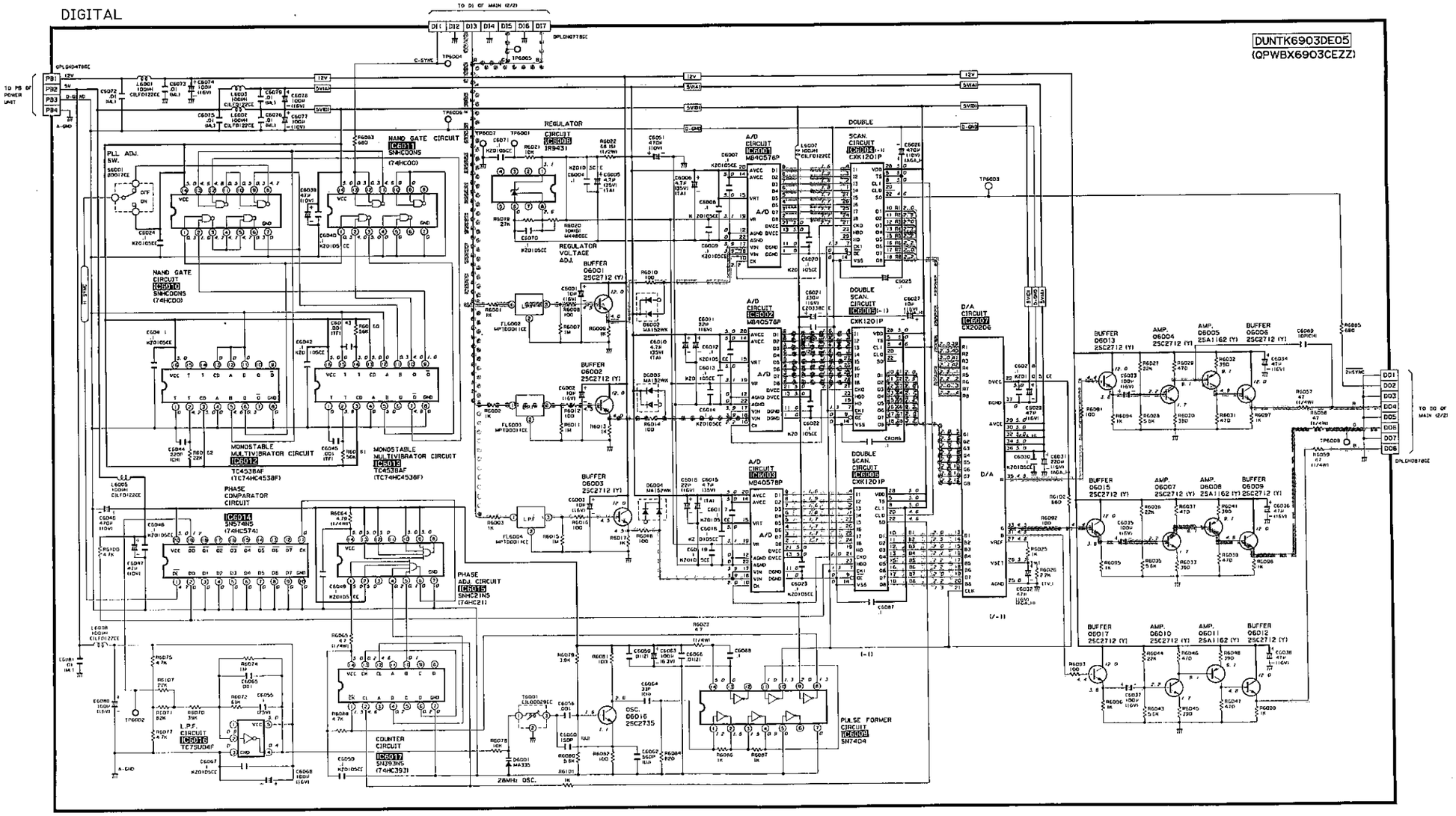
LIGHT UP (2)



DUNTK6987DE05
(QPWBX6987CEZZ)

DIGITAL

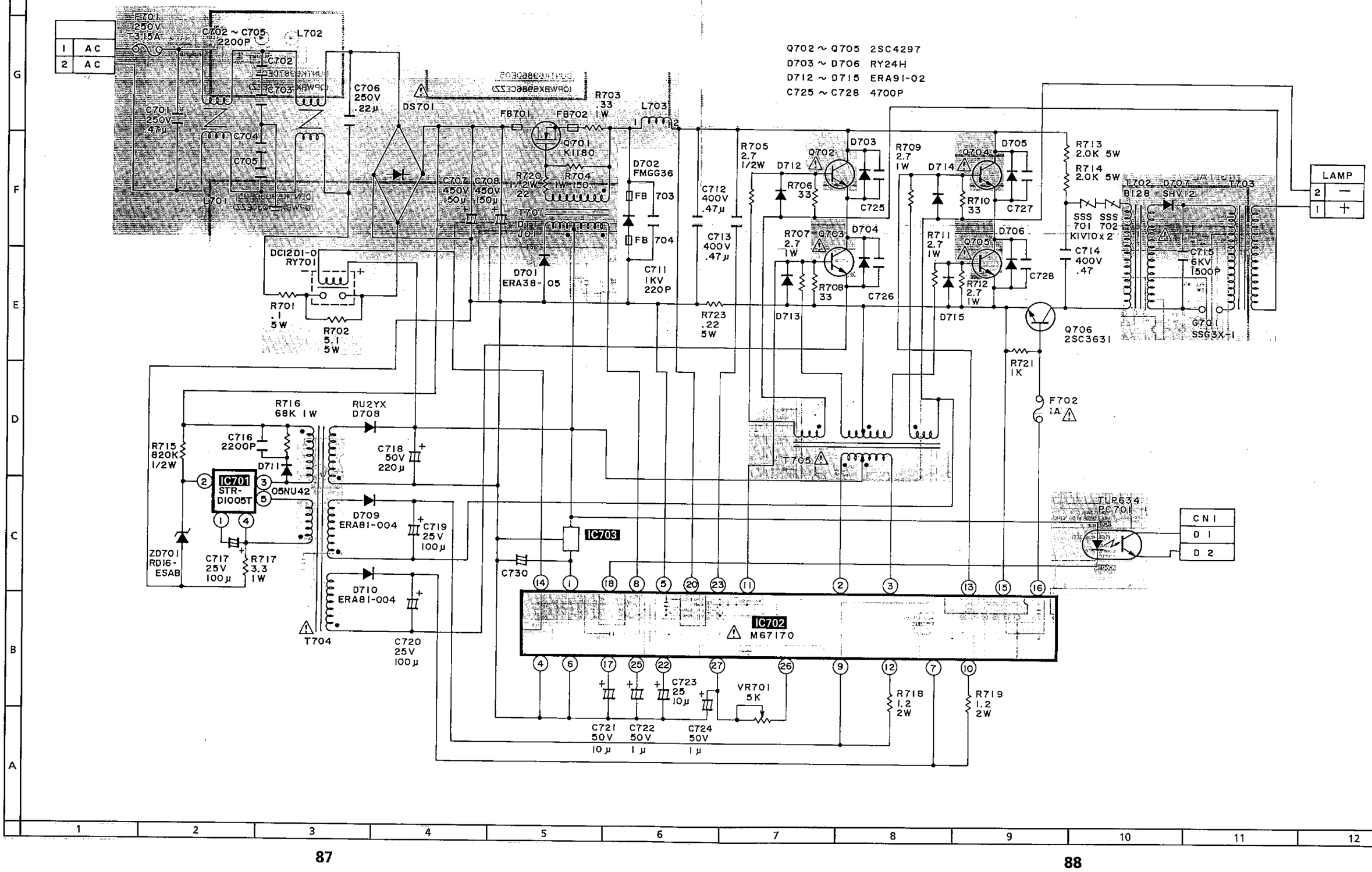
DUNTK6903DE05
(QPWBX6903CEZZ)



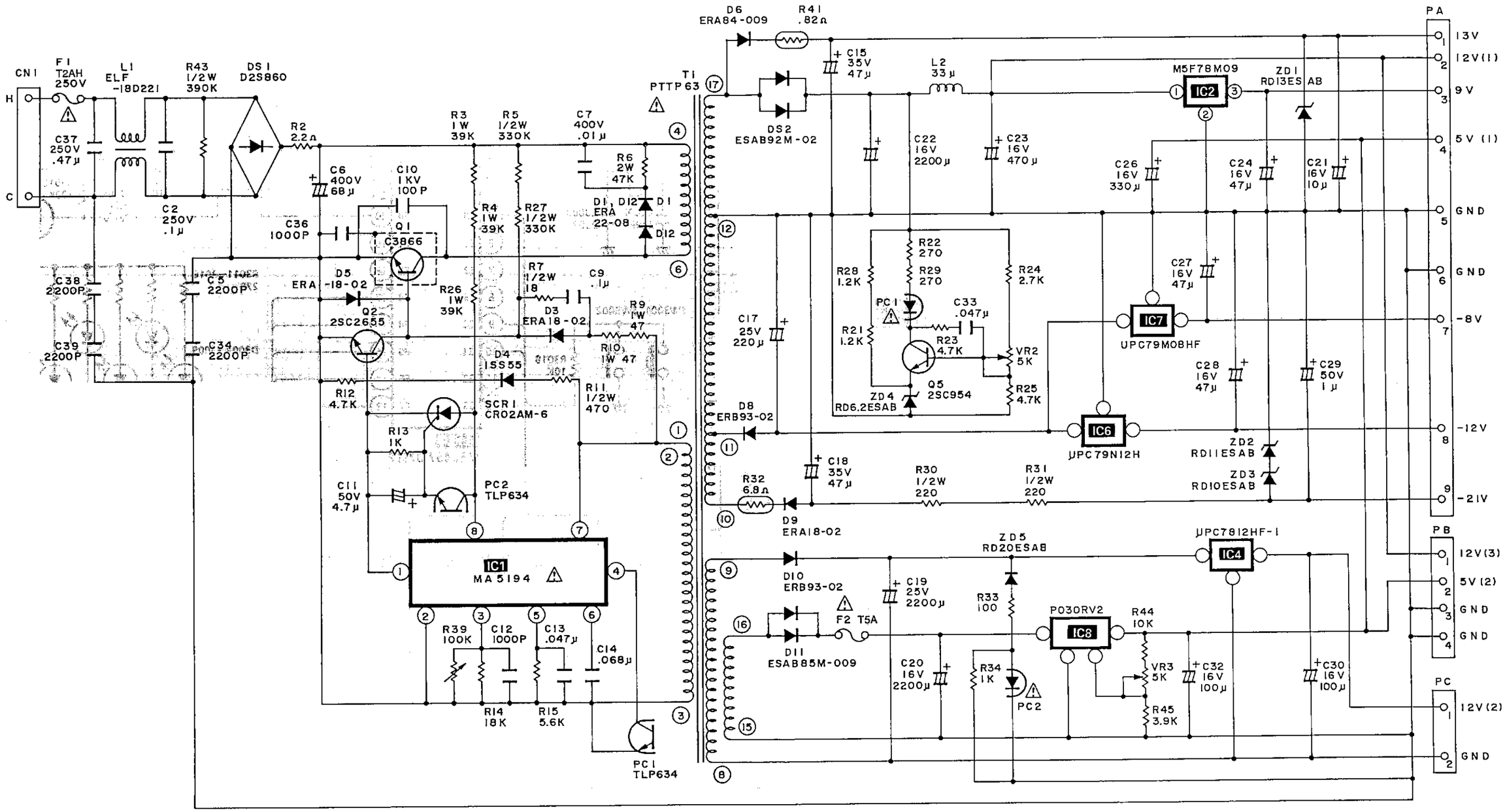
1	2	3	4	5	6	7	8	9	10	11	12

85 86

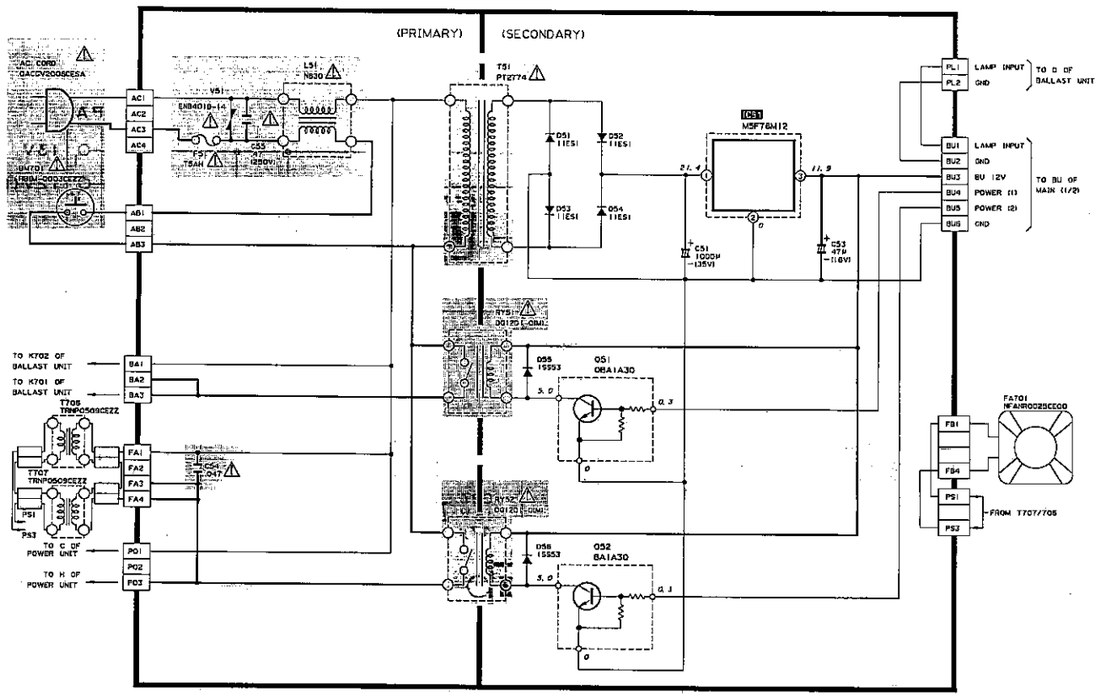
SCHEMATIC DIAGRAM: BALLAST UNIT /
SCHEMATISCHER SCHALTPLAN: VORSCHALTGERÄT



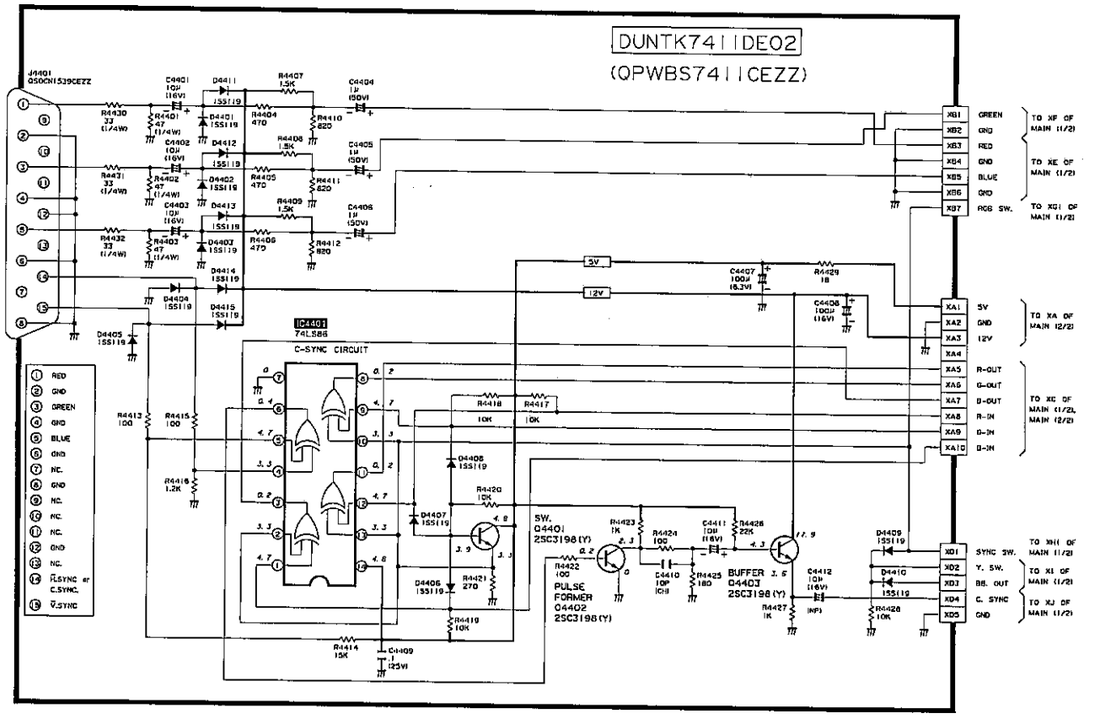
SCHEMATIC DIAGRAM: POWER UNIT / SCHEMATISCHER SCHALTPLAN: NETZGERÄT



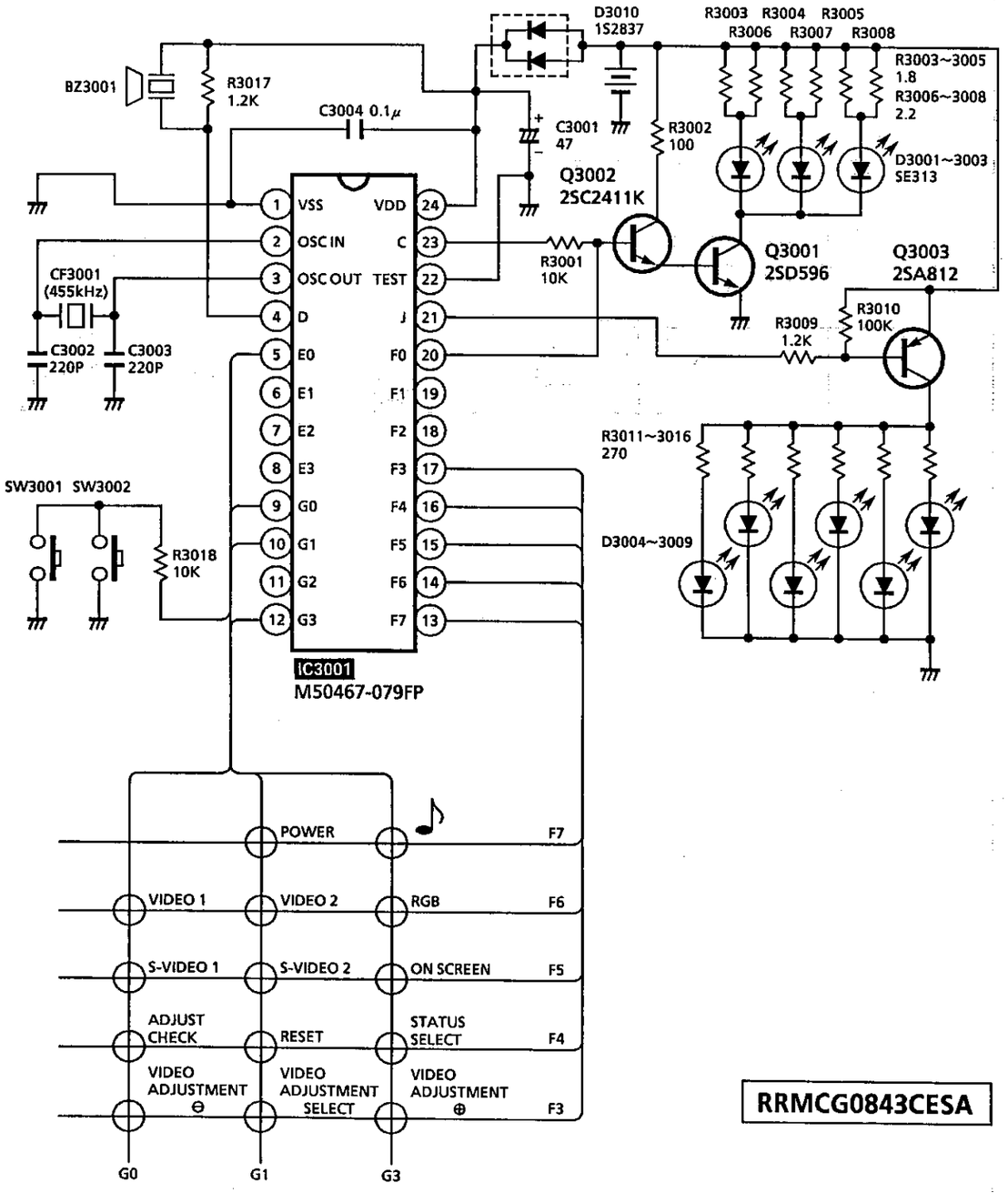
SCHEMATIC DIAGRAM: / SCHEMATISCHER SCHALTPLAN: RELAY UNIT / RELAY-EINHEIT



RGB UNIT / RGB-EINHEIT

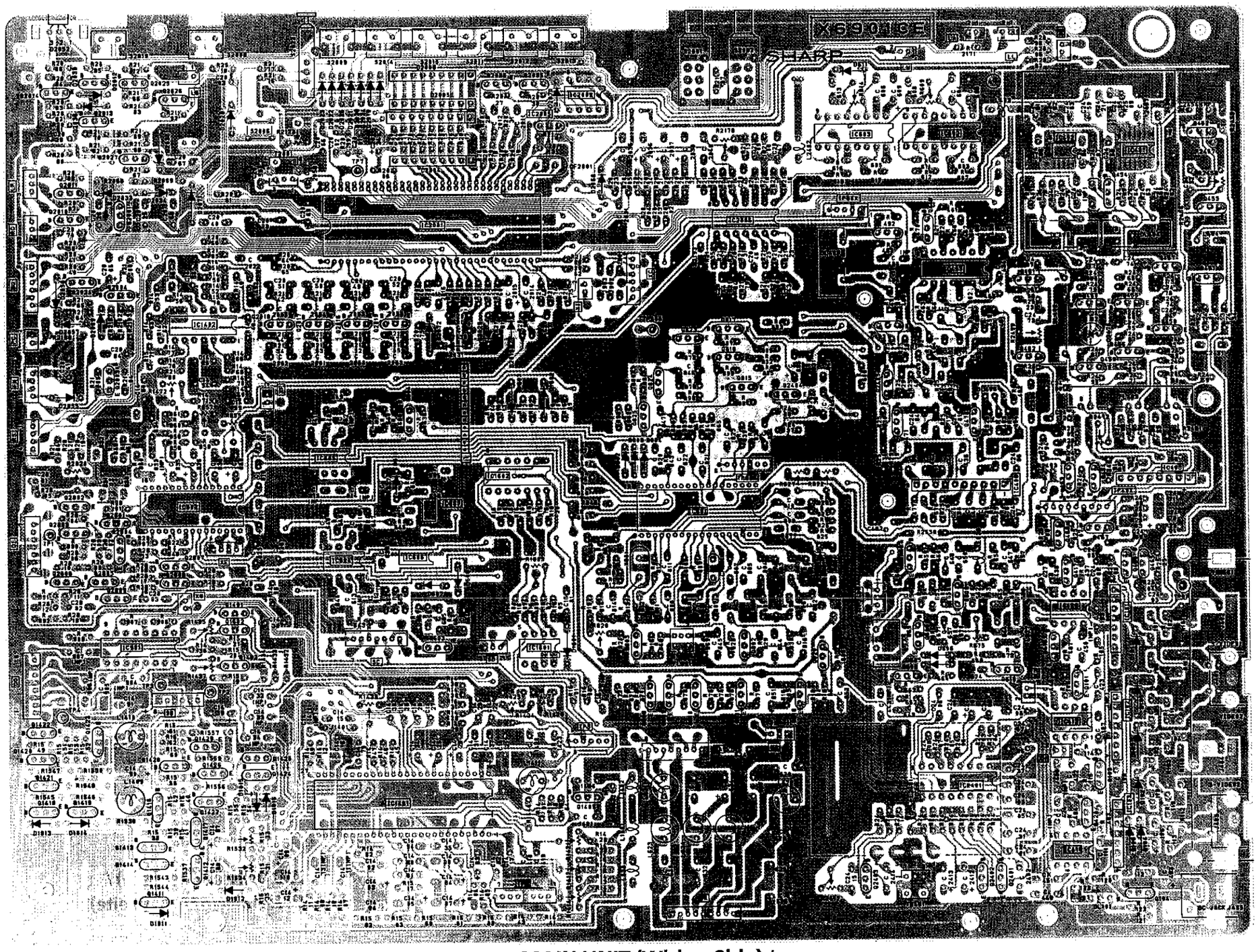


SCHEMATIC DIAGRAM: REMOTE CONTROL UNIT / SCHEMATISCHER SCHALTPLAN: FERNBEDIENUNG



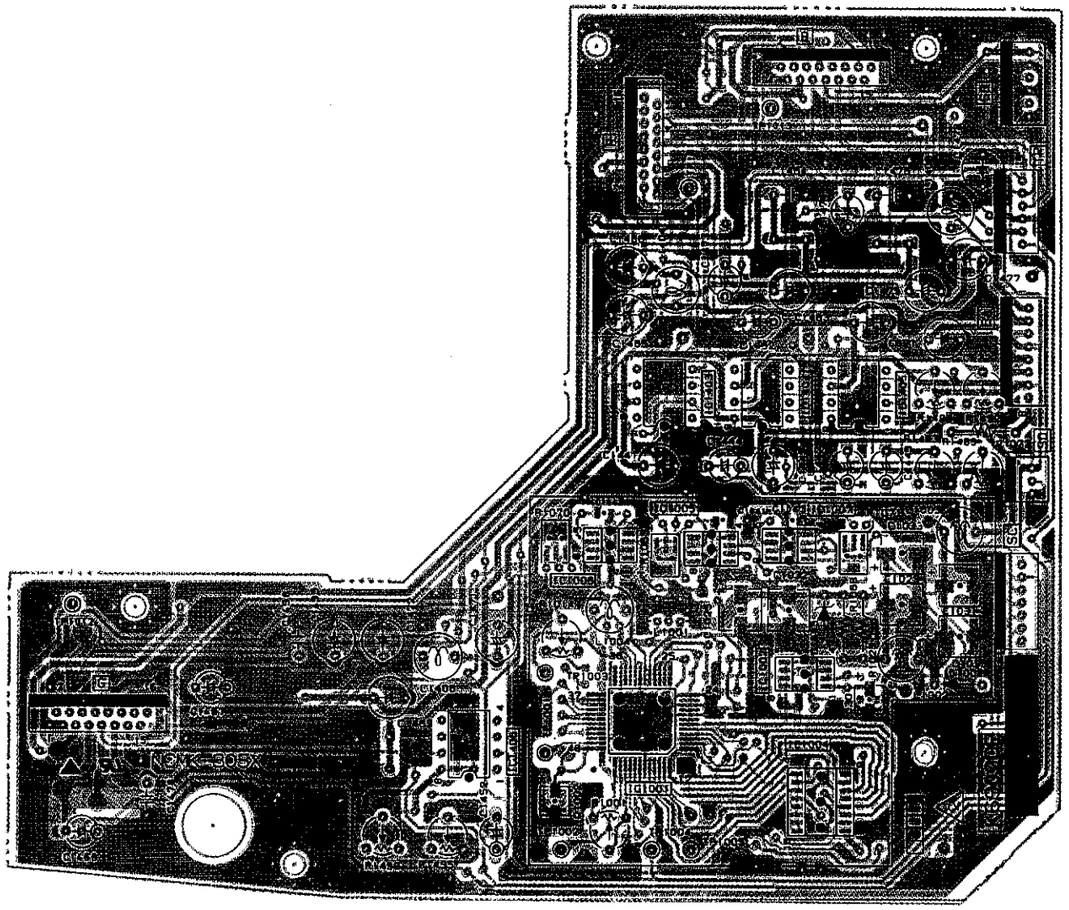
RRMCG0843CESA

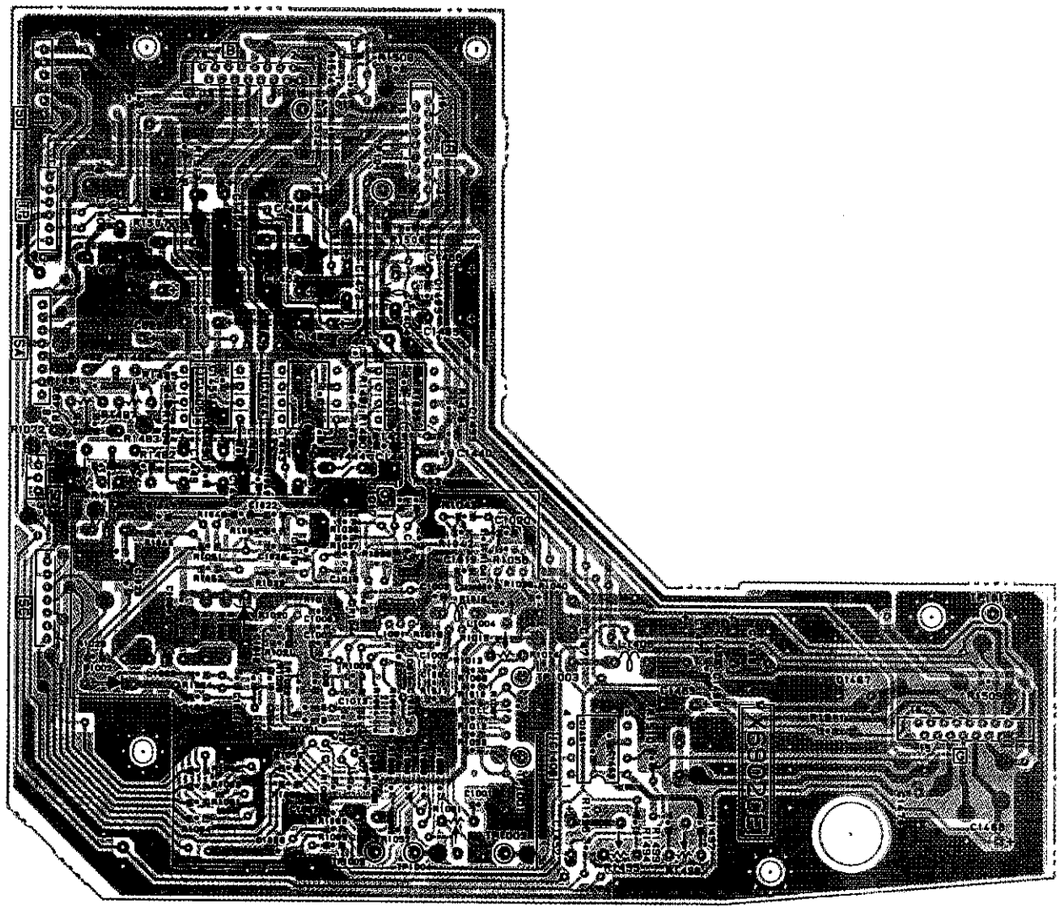
PRINTED WIRING BOARD ASSEMBLIES / LEITERPLATTENEINHEITEN



MAIN UNIT (Wiring Side) /
HAUPT EINHEIT (Leiterbahnseite)

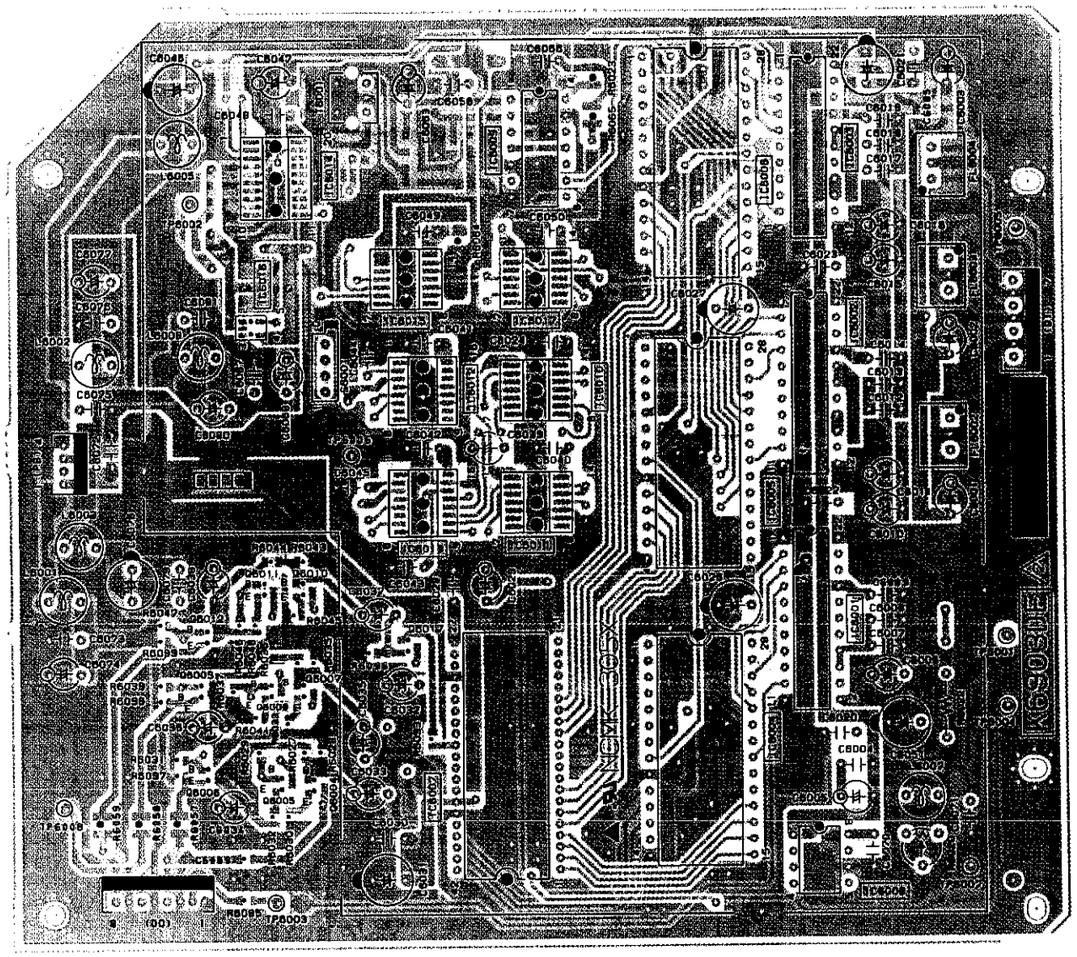
XG-3200S	XG-3200S



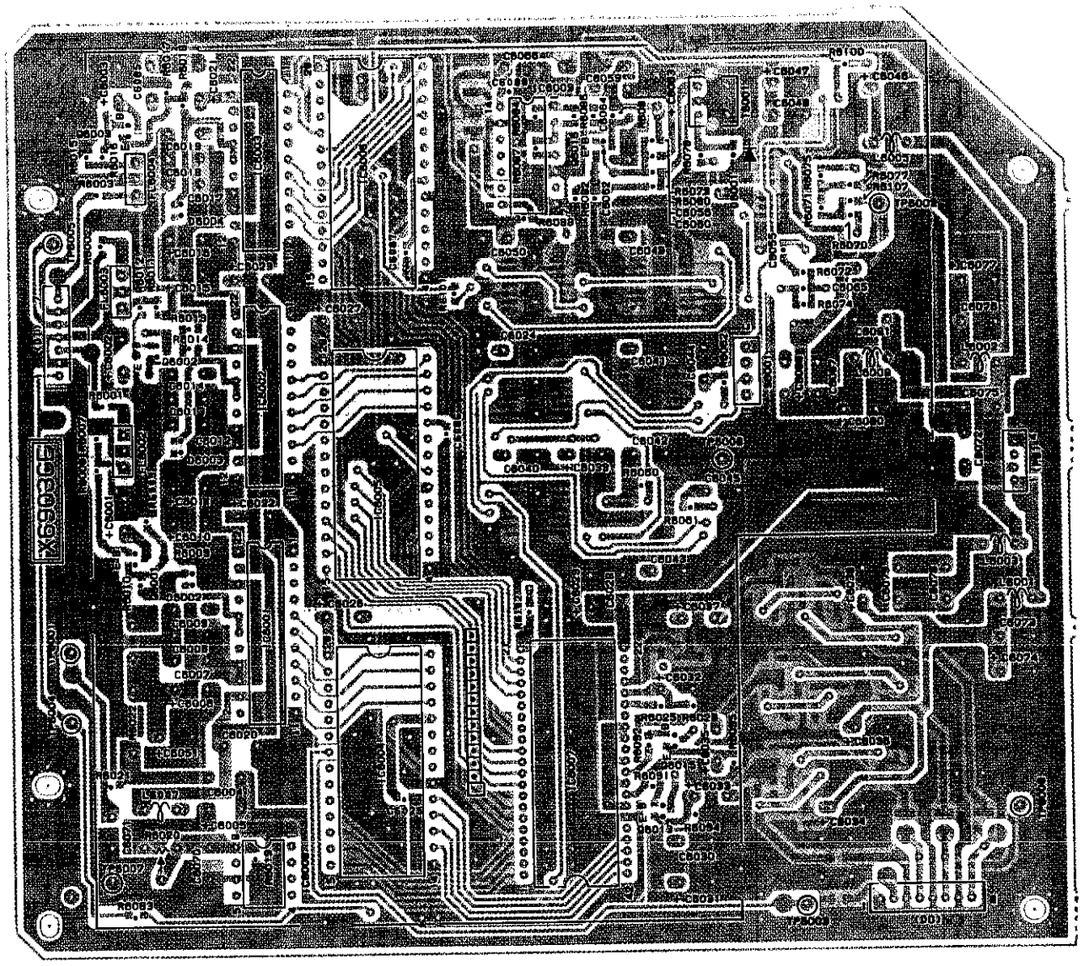


SUB UNIT (Parts Side) /
ZUSATZEINHEIT (Bestückungsseite)

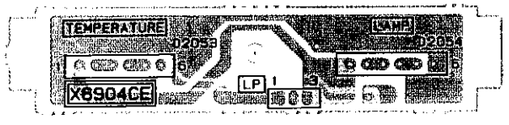
SUB UNIT (Solder Side) /
ZUSATZEINHEIT (Lötseite)



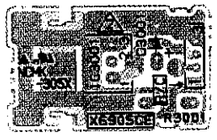
DIGITAL UNIT (Parts Side) /
DIGITALEINHEIT (Bestückungsseite)



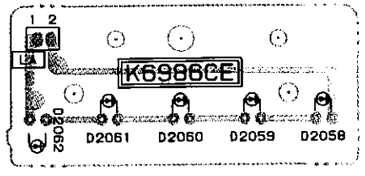
DIGITAL UNIT (Solder Side) /
DIGITALEINHEIT (Lötseite)



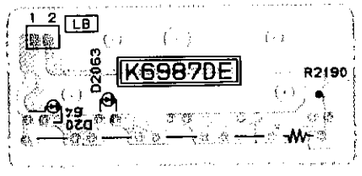
LED UNIT (Wiring Side) /
LED-EINHEIT (Leiterbahnseite)



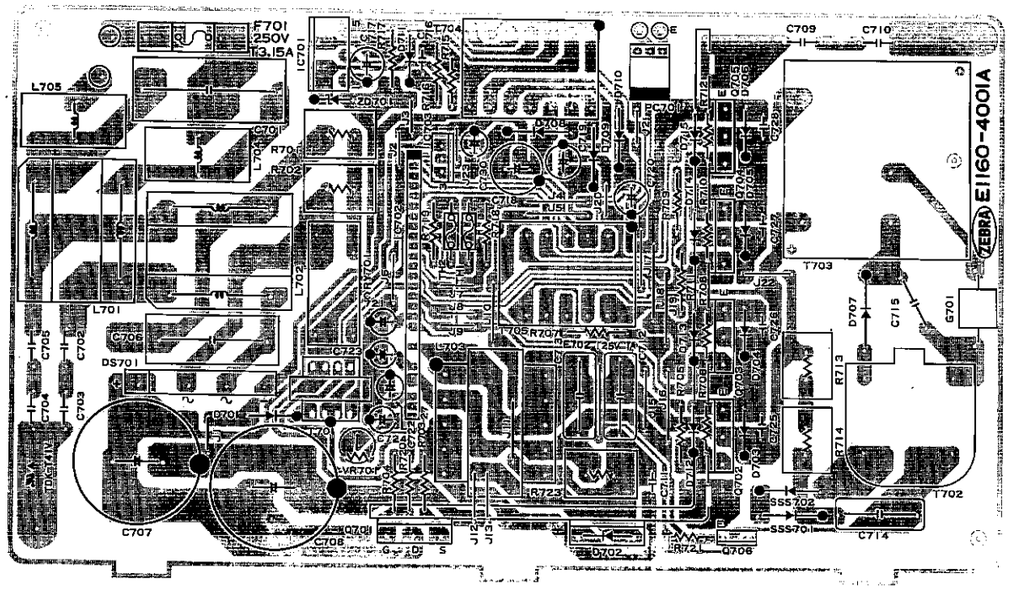
R/C UNIT (Wiring Side) /
FERNBEDIENUNGS-EINHEIT (Leiterbahnseite)



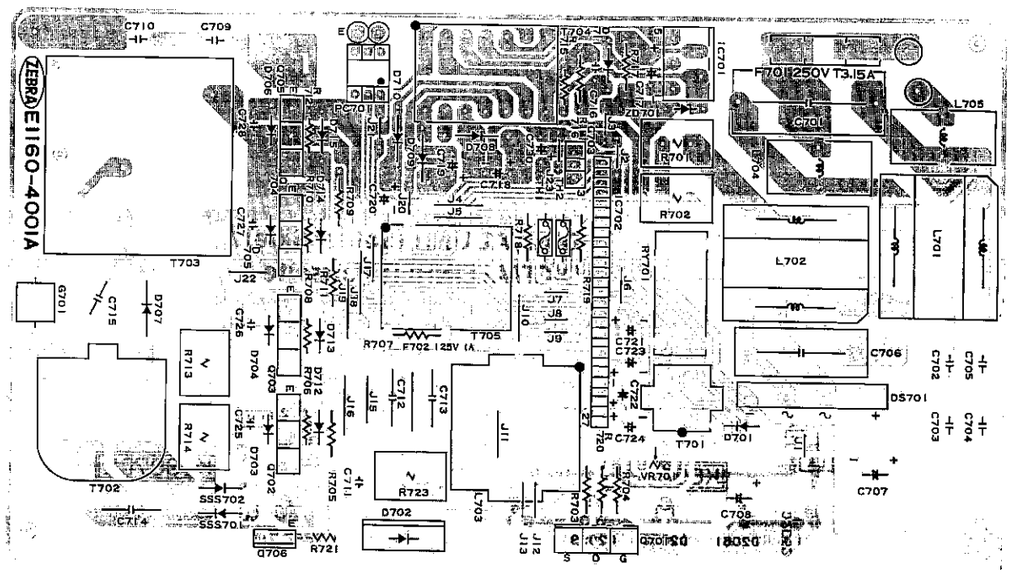
LIGHT UP (1) UNIT (Wiring Side) /
LEUCHT (1) EINHEIT (Leiterbahnseite)



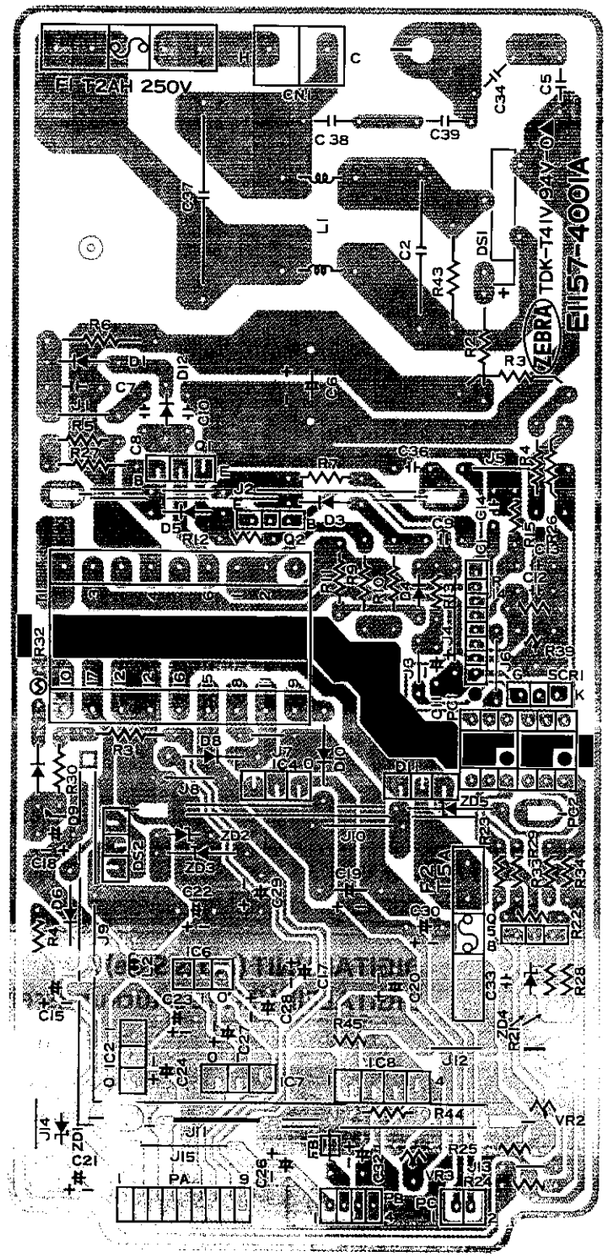
LIGHT UP (2) UNIT (Wiring Side) /
LEUCHT (2) EINHEIT (Leiterbahnseite)



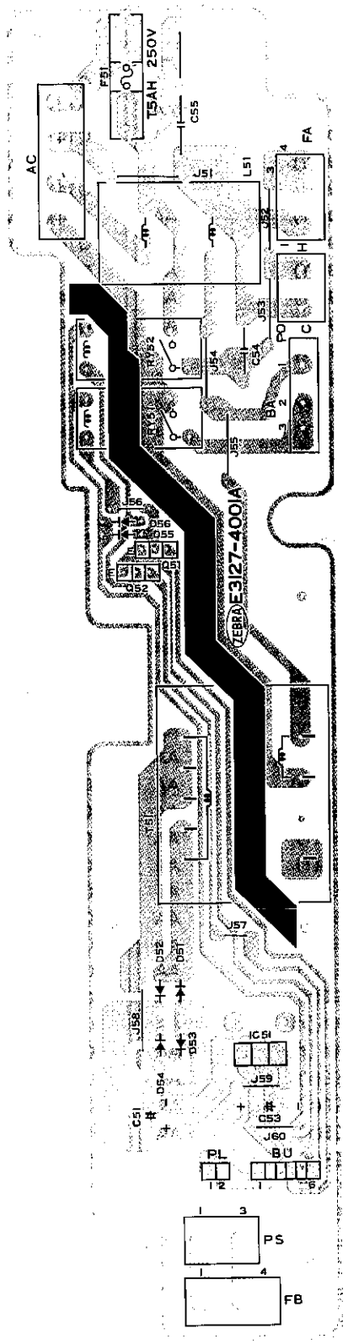
BALLAST UNIT (Component Side) /
VORSCHALTGERÄT (Bestückungsseite)



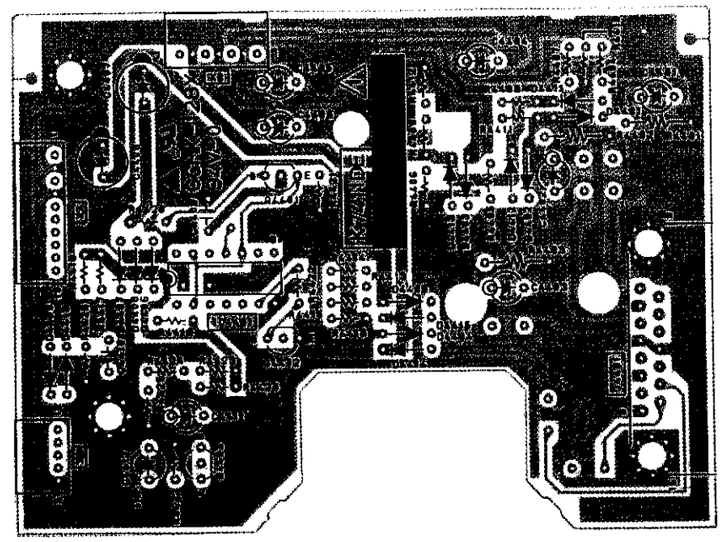
BALLAST UNIT (Wiring Side) /
VORSCHALTGERÄT (Leiterbahnseite)



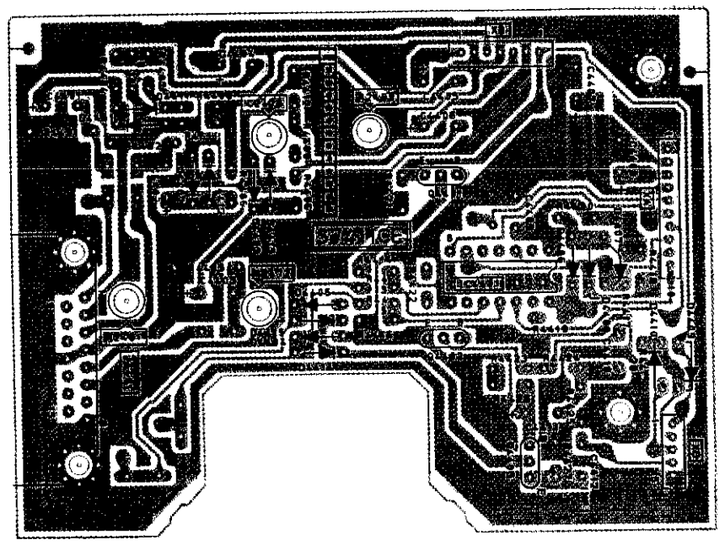
POWER UNIT (Wiring Side) /
NETZGERÄT (Leiterbahnseite)



RELAY UNIT (Wiring Side) /
RELAIS-EINHEIT (Leiterbahnseite)



RGB UNIT (Parts Side) /
RGB-EINHEIT (Bestückungsseite)



RGB UNIT (Solder Side) /
RGB-EINHEIT (Lötseite)

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by "⚠" in the Replacement Parts Lists. The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION
5. CODE
6. QUANTITY

MARK ★: SPARE PARTS-DELIVERY SECTION

ERSATZTEILLISTE

AUSTAUSCH VON TEILEN

Ersatzteile, die besondere Sicherheitseigenschften haben, sind in dieser Anleitung markiert. Elektrische Komponenten mit solchen Eigenshaften sind in den Ersatzteil durch " ⚠" gekennzeichnet.
Der Gebrauch von Ersatzteilen, die nicht deselben Sicherheitseigenschaften haben wie die vom Hersteller empfohlenen ud in der Bedienungsanleitung angegebenen, können zur Ursache von Blitzeinschlägen, Bränden und anderen Gefahren werden.

"WIE MAN ERSATSTEILE BESTELLT"

Damit Ihre Bestellung promt und korrekt ausgeführt wird, geben Sie bitte folgende Informationen.

1. MODELL NR.
2. REF. NR.
3. ERSATZTEIL NR.
4. BESCHREIBUNG
5. KODE
6. QUANTITÄT

MARKIERUNG ★: ERSATZTEILE-LIEFERUNG

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES
(*NOT REPLACEMENT ITEM*)

DUNTK6901DE56	–	Main Unit	—
DUNTK6902DE05	–	Sub Unit	—
DUNTK6903DE05	–	Digital Unit	—
DUNTK6904DE05	–	LED Unit	—
DUNTK6905DE05	–	R/C Unit	—
DUNTK6906DE05	–	Power Switch Unit	—
DUJTK6986DE05	–	Light Up (1) Unit	—
DUNTK6987DE05	–	Light Up (2) Unit	—
DUNTK7411DE02	–	RGB Unit	—
RDENC0050CEZZ	–	Ballast Unit	—
RDENC0049CEZZ	–	Power Unit	—
RUNTK0355CEZZ	–	Relay Unit	—

—— End of PWB ASSEMBLIES ——

ASSEMBLY UNITS

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

RUNTK0297CEZZ	J	G LCD Panel Unit	**
RUNTK0298CEZZ	J	R LCD Panel Unit	**
RUNTK0299CEZZ	J	B LCD Panel Unit	**

—— End of ASSEMBLY UNIT ——

DUNTK6901DE56
MAIN UNIT

INTEGRATED CIRCUITS

IC101	VHiTA7347P/-1	J	TA7347P	AG
IC102	VHiTA7347P/-1	J	TA7347P	AG
IC103	VHiTA7347P/-1	J	TA7347P	AG
IC401	VHiCXL5502M-1	J	CXL5502M	AQ
IC402	VHiCXL5504M-1	J	CXL5504M	AP
IC403	VHiCXA1413L-1	J	CXA1413L	AN
IC406	VHiNJM2245D-1	J	NJM2245D	AE
IC407	VHiPA0030//-1	J	PA0030	AP
IC408	VHiM51494L/-1	J	M51494L	AK
IC411	VHiNJM2245D-1	J	NJM2245D	AE
IC412	VHiNJM2245D-1	J	NJM2245D	AE
IC602	VHiTC4538AP-1	J	TC74HC4538AP	AH
IC603	VHiTC4538AP-1	J	TC74HC4538AP	AH
IC604	VHiNJM2246D-1	J	NJM2246D	AE
IC605	VHiNJM2246D-1	J	NJM2246D	AE
IC606	RH-iX1426CEZZ	J	TC74HC04AF	AC
IC607	VHiTC4S584F-1	J	TC4S584F	AD
IC801	RH-iX1311CEZZ	J	TA8601CN	AR
IC802	RH-iX0996CEZZ	J	iR3P32A1	AT
IC901	RH-iX0607CEZZ	J	LA7220	AK
IC1401	RH-iX1640CEZZ	J	M52033SP	AX
IC1402	VHiNJM2902N-1	J	NJM2902N	AD
IC1601	VHiLF353N//-1	J	LF353N	AH
IC1602	VHiNJM2902N-1	J	NJM2902N	AD
IC2001	RH-iX1639CEN1	J	M37102M8-770SP	BA
IC2002	RH-iX1636CEZZ	J	CAT93C46HP	AL
IC2005	VHiPST529C2-1	J	PST529C	AD
IC2006	VHiNJM2902N-1	J	NJM2902N	AD
IC2401	RH-iX1299CEN1	J	PA0024A	AQ

Ref. No.	Part No.	★	Description	Code

DUNTK6901DE56
MAIN UNIT (Continued)

TRANSISTORS

Q101	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q103	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q104	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q416	VS2SC3399//-1	J	2SC3399	AB
Q417	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q418	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q420	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q423	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q424	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q451	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q452	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q453	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q454	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q455	VS2SC3198-G-1	J	2SC3198(G)	AA
Q456	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q457	VS2SC3198-G-1	J	2SC3198(G)	AA
Q458	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q459	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q460	VS2SC3198-G-1	J	2SC3198(G)	AA
Q461	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q462	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q463	VS2SC3198-G-1	J	2SC3198(G)	AA
Q464	VS2SC3198-G-1	J	2SC3198(G)	AA
Q465	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q466	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q467	VS2SC3198-G-1	J	2SC3198(G)	AA
Q468	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q470	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q471	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q603	VS2SC3399//-1	J	2SC3399	AB
Q604	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q606	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q607	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q608	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q609	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q610	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q802	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q803	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q808	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q809	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q810	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q811	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q815	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q816	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q817	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q818	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q820	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q823	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q824	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q825	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1401	VS2SC3198-Y-1	J	2SC3198(Y)	AA

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TRANSISTORS (Continued)

Q1402	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1403	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1405	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1411	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q1412	VS2SA1015GW-1	J	2SA1015(GW)	AC
Q1413	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q1414	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1416	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1417	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q1418	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q1419	VS2SA1015GW-1	J	2SA1015(GW)	AC
Q1420	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q1421	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1422	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1423	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q1424	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q1425	VS2SA1015GW-1	J	2SA1015(GW)	AC
Q1426	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q1427	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1428	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q1429	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2001	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2003	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2004	VS2SC383-WT-1	J	2SC383(WT)	AE
Q2005	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2006	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2010	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2011	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2012	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2013	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2014	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2016	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2017	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2018	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2019	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2024	VS2SC3402//-1	J	2SC3402	AB
Q2025	VS2SA1307Y/-1	J	2SA1307(Y)	AG
Q2026	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2027	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2401	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2402	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2403	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2404	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2405	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2801	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2802	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2803	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2804	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2805	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2806	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q2807	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2808	VS2SA1266-Y-1	J	2SA1266(Y)	AA
Q2809	VS2SC3198-Y-1	J	2SC3198(Y)	AA

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MAIN UNIT (Continued)

DIODES

D101	RH-EX0200CEZZ	J	Zener Diode, 12V	AB
D102	RH-EX0200CEZZ	J	Zener Diode, 12V	AB
D103	RH-EX0200CEZZ	J	Zener Diode, 12V	AB
D104	RH-EX0200CEZZ	J	Zener Diode, 12V	AB
D105	RH-EX0200CEZZ	J	Zener Diode, 12V	AB
D106	RH-EX0200CEZZ	J	Zener Diode, 12V	AB
D605	VHD1SS119//-1	J	1SS119	AB
D606	VHD1SS119//-1	J	1SS119	AB
D607	VHD1SS119//-1	J	1SS119	AB
D608	VHD1SS119//-1	J	1SS119	AB
D609	VHD1SS119//-1	J	1SS119	AB
D610	VHD1SS119//-1	J	1SS119	AB
D611	VHD1SS119//-1	J	1SS119	AB
D801	RH-EX0223CEZZ	J	Zener Diode, 7.5V	AB
D802	VHD1SS119//-1	J	1SS119	AB
D803	VHD1SS119//-1	J	1SS119	AB
D804	VHD1SS119//-1	J	1SS119	AB
D1011	VHD1SS119//-1	J	1SS119	AB
D1012	VHD1SS119//-1	J	1SS119	AB
D1013	VHD1SS119//-1	J	1SS119	AB
D1014	VHD1SS119//-1	J	1SS119	AB
D1015	VHD1SS119//-1	J	1SS119	AB
D1016	VHD1SS119//-1	J	1SS119	AB
D1601	VHD1SS119//-1	J	1SS119	AB
D1602	VHD1SS119//-1	J	1SS119	AB
D1603	VHD1SS119//-1	J	1SS119	AB
D2015	VHD1SS119//-1	J	1SS119	AB
D2019	VHD1SS119//-1	J	1SS119	AB
D2020	VHD1SS119//-1	J	1SS119	AB
D2021	VHD1SS119//-1	J	1SS119	AB
D2022	VHD1SS119//-1	J	1SS119	AB
D2023	VHD1SS119//-1	J	1SS119	AB
D2024	VHD1SS119//-1	J	1SS119	AB
D2025	VHD1SS119//-1	J	1SS119	AB
D2028	VHD1SS119//-1	J	1SS119	AB
D2029	VHD1SS119//-1	J	1SS119	AB
D2031	VHD1SS119//-1	J	1SS119	AB
D2033	RH-EX0020GEZZ	J	Zener Diode, 5.1V	AE
D2034	VHD1SS119//-1	J	1SS119	AB
D2035	RH-EX0020GEZZ	J	Zener Diode, 5.1V	AE
D2036	VHD1SS119//-1	J	1SS119	AB
D2039	VHD1SS119//-1	J	1SS119	AB
D2052	RH-PX0276CEZZ	J	LED	AC
D2055	VHD1SS119//-1	J	1SS119	AB
D2056	RH-EX0045TAZZ	J	Zener Diode, 10V	AB
D2057	VHD1SS119//-1	J	1SS119	AB
D2068	VHD1SS119//-1	J	1SS119	AB
D2069	VHD1SS119//-1	J	1SS119	AB
D2070	VHD1SS119//-1	J	1SS119	AB
D2071	VHD1SS119//-1	J	1SS119	AB
D2072	RH-EX0138CEZZ	J	Zener Diode	AB
TH3001	RH-HZ0017CEZZ	J	Thermistor	AN

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PACKAGED CIRCUITS

C2004	RMPTE0072CEZZ	J	Capacitor Array	AE
D2005	RMPTJ0098CEZZ	J	Diode Array	AE
D2006	RMPTJ0099CEZZ	J	Diode Array	AE
FL404	RMPTD0011CEZZ	J	Filter	AE
R2156	RMPTC0208CEZZ	J	Resistor Array	AB
X801	RCRSB0069CEZZ	J	Crystal	AG

COILS AND TRANSFORMERS

CF801	RFILA0034CEZZ	J	Ceramic Filter	AD
CF2001	RFILC0091GEZZ	J	Ceramic Filter	AD
DL101	RCILZ0585CEZZ	J	Delay Line	AE
DL401	RCILZ0682CEZZ	J	Delay Line	AS
DL402	RCILZ0733CEZZ	J	Delay Line	AH
DL404	RCILZ0732CEZZ	J	Delay Line	AF
DL405	RCILZ0732CEZZ	J	Delay Line	AF
DL406	RCILZ0637CEZZ	J	Delay Line	AE
DL407	RCILZ0691CEZZ	J	Delay Line	AF
DL601	RCILZ0745CEZZ	J	Delay Line	AE
FL403	RCILF0171CEZZ	J	Coil	AL
FL801	RCILV0163CEZZ	J	Coil	AE
L402	VP-MK8R2K0000	J	8.2μH	AB
L403	VP-MK220K0000	J	22μH	AB
L621	PCILF0174CEZZ	J	Coil	AC
L622	RCILF0122CEZZ	J	Coil	AC
L623	PCILF0174CEZZ	J	Coil	AC
L624	RCILF0122CEZZ	J	Coil	AC
L627	VP-MK330K0000	J	33μH	AB
L628	VP-MK330K0000	J	33μH	AB
L630	PCILF0174CEZZ	J	Coil	AC
L631	RCILF0122CEZZ	J	Coil	AC
L801	VP-MK680K0000	J	68μH	AB
L1401	RCILF0122CEZZ	J	Coil	AC
L1402	RCILF0122CEZZ	J	Coil	AC
L1409	RCILF0122CEZZ	J	Coil	AC
L1410	RCILF0122CEZZ	J	Coil	AC
L1411	RCILF0122CEZZ	J	Coil	AC
L2401	VP-XF150K0000	J	15μH	AB
L2402	VP-MK220K0000	J	22μH	AB
L2403	VP-MK390K0000	J	39μH	AB
T2001	RCILB0027CEZZ	J	Coil	AD
T2401	RCILI0529CEZZ	J	IF Coil	AD

CONTROLS

R609	RVR-M4476GEZZ	J	2.2k(B)	H. BLK Phase	AC
R614	RVR-M4476GEZZ	J	2.2k(B)	Clamp Pulse Phase	AC
R675	RVR-M4478GEZZ	J	4.7k(B)	Tint	AC
R820	RVR-M4478GEZZ	J	4.7k(B)	APC	AC
R822	RVR-M4480GEZZ	J	10k(B)	Color	AC
R827	RVR-M4480GEZZ	J	10k(B)	Tint	AC
R855	RVR-M4480GEZZ	J	10k(B)	Video	AC

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MAIN UNIT (Continued)

CONTROLS (Continued)

R857	RVR-M4480GEZZ	J	10k(B)	Contrast	AC
R1414	RVR-M4480GEZZ	J	10k(B)	Green Sub Bias	AC
R1417	RVR-M4480GEZZ	J	10k(B)	Red Sub Bias	AC
R1421	RVR-M4480GEZZ	J	10k(B)	Blue Sub Bias	AC
R1424	RVR-M4478GEZZ	J	4.7k(B)	γ Gain	AC
R1426	RVR-M4478GEZZ	J	4.7k(B)	γ Position	AC
R1435	RVR-M4477GEZZ	J	3.3k(B)	White Balance	AC
R1437	RVR-M4477GEZZ	J	3.3k(B)	White Balance	AC
R1472	RVR-M4480GEZZ	J	10k(B)	Sub Contrast	AC
R1532	RVR-M4480GEZZ	J	10k(B)	Clip Level	AC
R1534	RVR-M4480GEZZ	J	10k(B)	Clip Level	AC
R1603	RVR-M4477GEZZ	J	3.3k(B)	AGC	AC
R2178	RVR-M4480GEZZ	J	10k(B)	Sub Bright.	AC
R2417	RVR-M4468GEZZ	J	100 (B)	Delay Level	AC
R2458	RVR-M4474GEZZ	J	1k (B)	DCF	AC
R2461	RVR-M4474GEZZ	J	1k (B)	DCF	AC
R2472	RVR-M4474GEZZ	J	1k (B)	DCF	AC
R2493	RVR-M4471GEZZ	J	330(B)	DCF	AC
R2499	RVR-M4474GEZZ	J	1k (B)	DCF	AC
R2820	RVR-M4477GEZZ	J	3.3k(B)	White Clip Level	AC

CAPACITORS

C101	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C102	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C103	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C104	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C105	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C106	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C107	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C108	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C109	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C110	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C111	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C112	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C422	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C423	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C424	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C427	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C428	VCCCPA1HH150J	J	15p	50V	Ceramic	AA
C429	VCCCPA1HH120J	J	12p	50V	Ceramic	AA
C430	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C431	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C432	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C433	VCCCPA1HH150J	J	15p	50V	Ceramic	AA
C434	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C438	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C439	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C440	VCCCPA1HH470J	J	47p	50V	Ceramic	AA
C441	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C442	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA

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CAPACITORS (Continued)

C443	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C449	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C450	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C451	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C484	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C486	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C487	VCKYPA1HB102K	J	1000p	50V	Ceramic	AA
C488	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C493	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C603	VCQRBA1HA392G	J	3900P	50V	Mylar	AC
C604	VCQRBA1HA472G	J	4700p	50V	Mylar	AC
C605	VCQRBA1HA152G	J	1500p	50V	Mylar	AC
C606	VCQRBA1HA152G	J	1500p	50V	Mylar	AC
C608	VCEAGA1AW476M	J	47	10V	Electrolytic	AA
C609	VCEAGA1AW476M	J	47	10V	Electrolytic	AA
C612	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C613	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C614	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C615	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C623	VCEAGA1AW227M	J	220	10V	Electrolytic	AB
C624	VCEAGA1AW227M	J	220	10V	Electrolytic	AB
C625	VCEAGA1EW107M	J	100	25V	Electrolytic	AD
C626	VCEAGA1HW107M	J	100	50V	Electrolytic	AC
C627	VCEAGA1EW107M	J	100	25V	Electrolytic	AD
C628	VCEAGA1CW227M	J	220	16V	Electrolytic	AC
C629	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C630	VCEAGA1EW227M	J	220	25V	Electrolytic	AC
C631	VCEAGA1EW227M	J	220	25V	Electrolytic	AC
C632	VCEAGA1CW227M	J	220	16V	Electrolytic	AC
C634	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C635	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C636	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C637	VCQYTA1HM123J	J	0.012	50V	Mylar	AA
C638	VCQRBA1HA472G	J	4700p	50V	Mylar	AC
C639	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C640	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C641	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C644	VCCCPA1HH390J	J	39p	50V	Ceramic	AA
C645	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C647	VCCCPA1HH680J	J	68p	50V	Ceramic	AA
C648	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C649	VCCCPA1HH820J	J	82p	50V	Ceramic	AA
C650	VCKYPA1HB561K	J	560P	50V	Ceramic	AA
C651	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C652	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C654	VCQYTA1HM102J	J	1000p	50V	Mylar	AA
C655	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C656	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C657	VCCCPA1HH220J	J	22p	50V	Ceramic	AA
C801	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C802	VCQYTA1HM272J	J	2700p	50V	Mylar	AA
C803	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C804	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C805	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C806	VCQYTA1HM103J	J	0.01	50V	Mylar	AA

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MAIN UNIT (Continued)

CAPACITORS (Continued)

C807	VCQYTA1HM183J	J	0.018	50V	Mylar	AB
C808	VCEAAA1HW106M	J	10	50V	Electrolytic	AB
C809	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C810	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C811	VCQYTA1HM183J	J	0.018	50V	Mylar	AB
C812	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C813	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C814	VCCCPA1HH330J	J	33p	50V	Ceramic	AA
C815	VCE9AA1HW225M	J	2.2	50V	Elect. (N.P)	AB
C816	VCCSPA1HL471J	J	470p	50V	Ceramic	AA
C817	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C818	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C819	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C820	VCKYPA1HB102K	J	1000p	50V	Ceramic	AA
C821	VCEAGA1CW337M	J	330	16V	Electrolytic	AC
C822	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C823	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C824	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C825	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C826	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C829	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C830	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C831	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C832	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C833	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C834	VCEAAA1HW475M	J	4.7	50V	Electrolytic	AA
C835	VCEAAA1HW104T	J	0.1	50V	Electrolytic	AB
C836	VCEAAA1HW104T	J	0.1	50V	Electrolytic	AB
C838	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C839	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C841	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C843	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C844	VCEAAA1HW335M	J	3.3	50V	Electrolytic	AB
C845	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C846	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C847	VCCCPA1HH120J	J	12p	50V	Ceramic	AA
C851	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C852	VCEAAA1HW104T	J	0.1	50V	Electrolytic	AB
C854	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C855	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C904	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C905	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C906	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C907	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C1401	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C1402	VCCCPA1HH680J	J	68p	50V	Ceramic	AA
C1403	VCEAGA1AW107M	J	100	10V	Electrolytic	AB
C1404	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1405	VCEAGA1HW225M	J	2.2	50V	Electrolytic	AB
C1407	VCEAAA1HW474T	J	0.47	50V	Electrolytic	AB
C1408	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1409	VCEAGA1CW107M	J	100	16V	Electrolytic	AB

Ref. No.	Part No.	★	Description	Code

CAPACITORS (Continued)

C1410	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1411	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C1412	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1413	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C1414	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C1415	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1416	VCEAGA1AW107M	J	100	10V	Electrolytic	AB
C1417	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1418	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1419	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1420	VCEAGA1CW477M	J	470	16V	Electrolytic	AC
C1421	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1422	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1423	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1424	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C1425	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C1426	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C1427	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1428	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1429	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1430	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1431	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1432	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C1433	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C1434	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C1435	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1437	VCEAGA1AW107M	J	100	10V	Electrolytic	AB
C1438	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1439	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1454	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1455	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1456	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1459	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1460	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1479	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C1480	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1481	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1482	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1483	VCEAAA1HW475M	J	4.7	50V	Electrolytic	AA
C1484	VCEAAA1HW225M	J	2.2	50V	Electrolytic	AB
C1485	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1486	VCCSPA1HL101J	J	100p	50V	Ceramic	AA
C1487	VCEAAA1HW106M	J	10	50V	Electrolytic	AB
C1488	VCEAAA1HW106M	J	10	50V	Electrolytic	AB
C1490	VCEAGA1CW337M	J	330	16V	Electrolytic	AC
C1491	VCEAGA1CW337M	J	330	16V	Electrolytic	AC
C1492	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1494	VCKYPA1HB562K	J	5600p	50V	Ceramic	AA
C1601	VCCSPA1HL331J	J	330p	50V	Ceramic	AA
C1602	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C2001	VCCCPA1HH101J	J	100p	50V	Ceramic	AA
C2002	VCCCPA1HH101J	J	100p	50V	Ceramic	AA
C2003	VCCSPA1HL101J	J	100p	50V	Ceramic	AA
C2011	VCCSPA1HL470J	J	47p	50V	Ceramic	AA
C2012	VCCSPA1HL470J	J	47p	50V	Ceramic	AA

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MAIN UNIT (Continued)

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description			Code
C2013	VCQYTA1HM104J	J	0.1	50V	Mylar	AA
C2014	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C2015	VCCSPA1HL101J	J	100p	50V	Ceramic	AA
C2016	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2022	VCQYTA1HM104J	J	0.1	50V	Mylar	AA
C2023	VCEA2H0JW338M	J	3300	6.3V	Electrolytic	AE
C2025	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2029	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2030	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2031	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2034	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2035	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2036	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2037	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2038	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2040	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C2041	VCEAGA1CW228M	J	2200	16V	Electrolytic	AE
C2043	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2044	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2045	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2026	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C2046	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2047	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2048	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2049	VCKYPA1HB122K	J	1200p	50V	Ceramic	AA
C2050	VCKYPA1HB122K	J	1200p	50V	Ceramic	AA
C2051	VCKYPA1HB122K	J	1200p	50V	Ceramic	AA
C2052	VCCSPA1HL471J	J	470p	50V	Ceramic	AA
C2053	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2054	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2055	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2056	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2060	VCCCPA1HH820J	J	82p	50V	Ceramic	AA
C2061	VCCCPA1HH820J	J	82p	50V	Ceramic	AA
C2062	VCCCPA1HH820J	J	82p	50V	Ceramic	AA
C2063	VCCCPA1HH820J	J	82p	50V	Ceramic	AA
C2064	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2065	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2066	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2067	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2068	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2069	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2070	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2071	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2401	VCCCPA1HH2R0C	J	2p	50V	Ceramic	AA
C2402	VCQYTA1HM473J	J	0.047	50V	Mylar	AA
C2403	VCCCPA1HH330J	J	33p	50V	Ceramic	AA
C2404	VCQYTA1HM473J	J	0.047	50V	Mylar	AA
C2405	VCQYTA1HM473J	J	0.047	50V	Mylar	AA
C2406	VCQYTA1HM473J	J	0.047	50V	Mylar	AA
C2407	VCKYPA1HB102K	J	1000p	50V	Ceramic	AA
C2408	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2409	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2410	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2411	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2412	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2413	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C2414	VCQYTA1HM104J	J	0.1	50V	Mylar	AA
C2415	VCCCPA1HH270J	J	27p	50V	Ceramic	AA
C2431	VCQYTA1HM104J	J	0.1	50V	Mylar	AA
C2434	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2436	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2437	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2451	VCEAGA1CW336M	J	33	16V	Electrolytic	AB
C2452	VCCCPA1HH120J	J	12p	50V	Ceramic	AA
C2453	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2454	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C2455	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2456	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C2457	VCEAAA1HW106M	J	10	50V	Electrolytic	AB
C2458	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2459	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2460	VCKYPA1HB102K	J	1000p	50V	Ceramic	AA
C2461	VCEAAA1HW106M	J	10	50V	Electrolytic	AB
C2462	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2463	VCEAAA1HW105M	J	1	50V	Electrolytic	AB
C2464	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2465	VCE9AA1HW105M	J	1	50V	Elect. (N.P)	AB
C2466	VCKYPA1HB102K	J	1000p	50V	Ceramic	AA
C2467	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2468	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2469	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2470	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2471	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C2472	VCEAGA1CW336M	J	33	16V	Electrolytic	AB
C2473	VCCCPA1HH180J	J	18p	50V	Ceramic	AA
C2474	VCEAGA1CW336M	J	33	16V	Electrolytic	AB
C2475	VCCCPA1HH150J	J	15p	50V	Ceramic	AA
C2476	RTO-H0011TAZZ	J	Trimmer			AD
C2477	VCEAGA1HW106M	J	10	50V	Electrolytic	AC
C2478	VCCCPA1HH150J	J	15p	50V	Ceramic	AA
C2480	VCEAGA1CW336M	J	33	16V	Electrolytic	AB
C2481	VCCCPA1HH3R0C	J	3p	50V	Ceramic	AA
C2484	VCCCPA1HH390J	J	39p	50V	Ceramic	AA
C2486	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2487	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2488	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C2489	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2490	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2492	VCCCPA1HH121J	J	120p	50V	Ceramic	AA
C2493	VCCCPA1HH151J	J	150p	50V	Ceramic	AA
C2494	VCCCPA1HH3R0C	J	3p	50V	Ceramic	AA
C2495	VCCCPA1HH560J	J	56p	50V	Ceramic	AA
C2801	VCTYPA1EX104M	J	0.1	25V	Ceramic	AB
C2802	VCTYPA1EX104M	J	0.1	25V	Ceramic	AB
C2803	VCTYPA1EX104M	J	0.1	25V	Ceramic	AB

Ref. No.	Part No.	★	Description	Code

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MAIN UNIT (Continued)

RESISTORS

R101	VRD-RA2EE750J	J	75	1/4W	Carbon		AA
R102	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R103	VRD-RA2EE750J	J	75	1/4W	Carbon		AA
R104	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R105	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R106	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R110	VRD-RA2EE750J	J	75	1/4W	Carbon		AA
R111	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R112	VRD-RA2EE750J	J	75	1/4W	Carbon		AA
R113	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R114	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R115	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R116	VRD-RA2EE750J	J	75	1/4W	Carbon		AA
R117	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R118	VRD-RA2EE750J	J	75	1/4W	Carbon		AA
R119	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R120	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R121	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R122	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R123	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R401	VRD-RA2BE393J	J	39k	1/8W	Carbon		AA
R402	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R403	VRD-RA2BE331J	J	330	1/8W	Carbon		AA
R404	VRD-RA2BE681J	J	680	1/8W	Carbon		AA
R437	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R438	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R459	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R461	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R462	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R463	VRD-RA2BE471J	J	470	1/8W	Carbon		AA
R464	VRD-RA2BE221J	J	220	1/8W	Carbon		AA
R465	VRD-RA2BE471J	J	470	1/8W	Carbon		AA
R466	VRD-RA2BE471J	J	470	1/8W	Carbon		AA
R467	VRD-RA2BE562J	J	5.6k	1/8W	Carbon		AA
R468	VRD-RA2BE183J	J	18k	1/8W	Carbon		AA
R469	VRD-RA2BE123J	J	12k	1/8W	Carbon		AA
R470	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R475	VRD-RA2BE392J	J	3.9k	1/8W	Carbon		AA
R476	VRD-RA2BE123J	J	12k	1/8W	Carbon		AA
R477	VRD-RA2BE330J	J	33	1/8W	Carbon		AA
R483	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R484	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R487	VRD-RA2BE562J	J	5.6k	1/8W	Carbon		AA
R490	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R491	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R492	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R493	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R606	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R607	VRN-SC2BP272F	J	2.7k	1/8W	Metal Film		AA
R608	VRN-SC2BP153F	J	15k	1/8W	Metal Film		AA
R611	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R612	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA

Ref. No.	Part No.	★	Description	Code

RESISTORS (Continued)

R613	VRN-SC2BP222F	J	2.2k	1/8W	Metal Film		AA
R616	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R617	VRN-SC2BP222F	J	2.2k	1/8W	Metal Film		AA
R618	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R623	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R634	VRD-RA2BE122J	J	1.2k	1/8W	Carbon		AA
R635	VRD-RA2BE821J	J	820	1/8W	Carbon		AA
R636	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R638	VRD-RA2BE821J	J	820	1/8W	Carbon		AA
R640	VRD-RA2BE682J	J	6.8k	1/8W	Carbon		AA
R641	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R643	VRD-RA2BE821J	J	820	1/8W	Carbon		AA
R644	VRD-RA2BE122J	J	1.2k	1/8W	Carbon		AA
R645	VRD-RA2BE470J	J	47	1/8W	Carbon		AA
R646	VRD-RA2BE272J	J	2.7k	1/8W	Carbon		AA
R647	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R648	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R649	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R650	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R651	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R652	VRD-RA2BE563J	J	56k	1/8W	Carbon		AA
R653	VRD-RA2BE153J	J	15k	1/8W	Carbon		AA
R654	VRD-RA2BE471J	J	470	1/8W	Carbon		AA
R655	VRD-RA2BE471J	J	470	1/8W	Carbon		AA
R657	VRD-RA2BE331J	J	330	1/8W	Carbon		AA
R658	VRD-RA2BE562J	J	5.6k	1/8W	Carbon		AA
R659	VRD-RA2BE223J	J	22k	1/8W	Carbon		AA
R660	VRD-RA2BE223J	J	22k	1/8W	Carbon		AA
R661	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R662	VRD-RA2BE562J	J	5.6k	1/8W	Carbon		AA
R663	VRD-RA2BE333J	J	33k	1/8W	Carbon		AA
R664	VRD-RA2BE562J	J	5.6k	1/8W	Carbon		AA
R665	VRD-RA2BE152J	J	1.5k	1/8W	Carbon		AA
R666	VRD-RA2BE273J	J	27k	1/8W	Carbon		AA
R667	VRD-RA2BE153J	J	15k	1/8W	Carbon		AA
R668	VRD-RA2BE183J	J	18k	1/8W	Carbon		AA
R669	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R670	VRD-RA2BE561J	J	560	1/8W	Carbon		AA
R671	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R673	VRD-RA2BE471J	J	470	1/8W	Carbon		AA
R674	VRD-RA2BE821J	J	820	1/8W	Carbon		AA
R676	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R677	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R802	VRD-RA2BE224J	J	220k	1/8W	Carbon		AA
R803	VRD-RA2BE225J	J	2.2M	1/8W	Carbon		AA
R804	VRD-RA2HD151J	J	150	1/2W	Carbon		AA
R805	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R806	VRD-RA2BE151J	J	150	1/8W	Carbon		AA
R807	VRD-RA2BE472J	J	4.7k	1/8W	Carbon		AA
R808	VRD-RA2BE331J	J	330	1/8W	Carbon		AA
R809	VRD-RA2BE182J	J	1.8k	1/8W	Carbon		AA
R810	VRD-RA2BE563J	J	56k	1/8W	Carbon		AA
R811	VRD-RA2BE395J	J	3.9M	1/8W	Carbon		AA
R812	VRD-RA2BE222J	J	2.2k	1/8W	Carbon		AA
R813	VRD-RA2BE271J	J	270	1/8W	Carbon		AA

Ref. No.	Part No.	★	Description	Code

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MAIN UNIT (Continued)

RESISTORS (Continued)

R814	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R816	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R817	VRD-RA2BE472J	J	4.7k	1/8W	Carbon		AA
R818	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R819	VRD-RA2BE153J	J	15k	1/8W	Carbon		AA
R821	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R823	VRD-RA2BE823J	J	82k	1/8W	Carbon		AA
R824	VRD-RA2BE822J	J	8.2k	1/8W	Carbon		AA
R825	VRD-RA2BE822J	J	8.2k	1/8W	Carbon		AA
R826	VRD-RA2BE823J	J	82k	1/8W	Carbon		AA
R828	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R829	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R830	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R831	VRD-RA2BE183J	J	18k	1/8W	Carbon		AA
R832	VRD-RA2BE561J	J	560	1/8W	Carbon		AA
R838	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R839	VRD-RA2BE334J	J	330k	1/8W	Carbon		AA
R840	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R841	VRD-RA2BE472J	J	4.7k	1/8W	Carbon		AA
R843	VRD-RA2BE181J	J	180	1/8W	Carbon		AA
R844	VRD-RA2BE391J	J	390	1/8W	Carbon		AA
R845	VRD-RA2HD272J	J	2.7k	1/2W	Carbon		AA
R846	VRD-RA2BE391J	J	390	1/8W	Carbon		AA
R847	VRD-RA2BE391J	J	390	1/8W	Carbon		AA
R848	VRD-RA2BE820J	J	82	1/8W	Carbon		AA
R849	VRD-RA2BE223J	J	22k	1/8W	Carbon		AA
R850	VRD-RA2BE473J	J	47k	1/8W	Carbon		AA
R851	VRD-RA2BE272J	J	2.7k	1/8W	Carbon		AA
R856	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R858	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R859	VRD-RA2BE473J	J	47k	1/8W	Carbon		AA
R860	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R861	VRD-RA2BE223J	J	22k	1/8W	Carbon		AA
R865	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R867	VRD-RA2BE823J	J	82k	1/8W	Carbon		AA
R868	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R869	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R870	VRD-RA2BE393J	J	39k	1/8W	Carbon		AA
R871	VRD-RA2BE393J	J	39k	1/8W	Carbon		AA
R872	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R873	VRD-RA2BE222J	J	2.2k	1/8W	Carbon		AA
R874	VRD-RA2BE152J	J	1.5k	1/8W	Carbon		AA
R875	VRD-RA2BE182J	J	1.8k	1/8W	Carbon		AA
R876	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R877	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R878	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R879	VRD-RA2BE472J	J	4.7k	1/8W	Carbon		AA
R880	VRD-RA2BE472J	J	4.7k	1/8W	Carbon		AA
R881	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R882	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R883	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R884	VRD-RA2BE183J	J	18k	1/8W	Carbon		AA

Ref. No.	Part No.	★	Description	Code

RESISTORS (Continued)

R885	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R886	VRD-RA2BE223J	J	22k	1/8W	Carbon		AA
R887	VRD-RA2BE152J	J	1.5k	1/8W	Carbon		AA
R889	VRD-RA2BE472J	J	4.7k	1/8W	Carbon		AA
R890	VRD-RA2BE221J	J	220	1/8W	Carbon		AA
R891	VRD-RA2BE221J	J	220	1/8W	Carbon		AA
R892	VRD-RA2BE221J	J	220	1/8W	Carbon		AA
R893	VRD-RA2BE470J	J	47	1/8W	Carbon		AA
R895	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R896	VRD-RA2BE152J	J	1.5k	1/8W	Carbon		AA
R897	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R898	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R899	VRD-RA2BE393J	J	39k	1/8W	Carbon		AA
R1401	VRD-RA2BE470J	J	47	1/8W	Carbon		AA
R1402	VRD-RA2BE563J	J	56k	1/8W	Carbon		AA
R1404	VRD-RA2BE472J	J	4.7k	1/8W	Carbon		AA
R1405	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R1406	VRN-SC2BP100F	J	10	1/8W	Metal Film		AA
R1407	VRD-RA2BE105J	J	1M	1/8W	Carbon		AA
R1408	VRD-RA2BE105J	J	1M	1/8W	Carbon		AA
R1409	VRD-RA2BE105J	J	1M	1/8W	Carbon		AA
R1410	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R1411	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R1412	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R1413	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R1415	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R1416	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R1418	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R1420	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R1422	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R1423	VRD-RA2BE470J	J	47	1/8W	Carbon		AA
R1425	VRD-RA2BE682J	J	6.8k	1/8W	Carbon		AA
R1427	VRD-RA2BE682J	J	6.8k	1/8W	Carbon		AA
R1428	VRD-RA2BE123J	J	12k	1/8W	Carbon		AA
R1429	VRD-RA2BE682J	J	6.8k	1/8W	Carbon		AA
R1430	VRD-RA2BE123J	J	12k	1/8W	Carbon		AA
R1431	VRD-RA2BE562J	J	5.6k	1/8W	Carbon		AA
R1432	VRD-RA2EE102J	J	1k	1/4W	Carbon		AA
R1433	VRD-RA2EE102J	J	1k	1/4W	Carbon		AA
R1434	VRD-RA2EE102J	J	1k	1/4W	Carbon		AA
R1436	VRD-RA2BE152J	J	1.5k	1/8W	Carbon		AA
R1441	VRD-RA2BE223J	J	22k	1/8W	Carbon		AA
R1443	VRD-RA2BE562J	J	5.6k	1/8W	Carbon		AA
R1444	VRD-RA2BE470J	J	47	1/8W	Carbon		AA
R1445	VRD-RA2BE221J	J	220	1/8W	Carbon		AA
R1446	VRD-RA2BE221J	J	220	1/8W	Carbon		AA
R1447	VRD-RA2BE221J	J	220	1/8W	Carbon		AA
R1448	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R1449	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA
R1450	VRD-RA2BE183J	J	18k	1/8W	Carbon		AA
R1451	VRD-RA2BE333J	J	33k	1/8W	Carbon		AA
R1452	VRD-RA2BE104J	J	100k	1/8W	Carbon		AA
R1453	VRD-RA2BE100J	J	10	1/8W	Carbon		AA
R1456	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R1462	VRD-RA2BE103J	J	10k	1/8W	Carbon		AA

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MAIN UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1463	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1466	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1468	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1469	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R1470	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1471	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R1476	VRD-RA2BE104J	J	100k1/8W Carbon	AA
R1477	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R1500	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R1501	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R1502	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R1503	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R1517	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1518	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R1519	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R1520	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R1521	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R1522	VRD-RA2EE102J	J	1k 1/4W Carbon	AA
R1531	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1533	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1535	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1536	VRD-RA2HD122J	J	1.2k 1/2W Carbon	AA
R1537	VRD-RA2HD122J	J	1.2k 1/2W Carbon	AA
R1538	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R1539	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R1540	VRD-RA2BE2R2J	J	2.2 1/8W Carbon	AA
R1541	VRD-RA2BE2R2J	J	2.2 1/8W Carbon	AA
R1542	VRD-RA2BE5R6J	J	5.6 1/8W Carbon	AA
R1543	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1544	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1545	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1546	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1547	VRD-RA2HD122J	J	1.2k 1/2W Carbon	AA
R1548	VRD-RA2HD122J	J	1.2k 1/2W Carbon	AA
R1549	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R1550	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R1551	VRD-RA2BE2R2J	J	2.2 1/8W Carbon	AA
R1552	VRD-RA2BE2R2J	J	2.2 1/8W Carbon	AA
R1553	VRD-RA2BE5R6J	J	5.6 1/8W Carbon	AA
R1554	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1555	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1556	VRD-RA2HD122J	J	1.2k 1/2W Carbon	AA
R1557	VRD-RA2HD122J	J	1.2k 1/2W Carbon	AA
R1558	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R1559	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R1560	VRD-RA2BE2R2J	J	2.2 1/8W Carbon	AA
R1561	VRD-RA2BE2R2J	J	2.2 1/8W Carbon	AA
R1562	VRD-RA2BE5R6J	J	5.6 1/8W Carbon	AA
R1564	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R1569	VRD-RA2BE105J	J	1M 1/8W Carbon	AA
R1570	VRD-RA2BE104J	J	100k1/8W Carbon	AA
R1571	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1601	VRD-RA2BE393J	J	39k 1/8W Carbon	AA
R1602	VRD-RA2BE822J	J	8.2k 1/8W Carbon	AA
R1604	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R1605	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1606	VRD-RA2BE184J	J	180k1/8W Carbon	AA
R1607	VRD-RA2BE393J	J	39k 1/8W Carbon	AA
R1608	VRD-RA2BE564J	J	560k1/8W Carbon	AA
R1609	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1610	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1611	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1612	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1613	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R1614	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R1615	VRD-RA2BE183J	J	18k 1/8W Carbon	AA
R1616	VRD-RA2BE393J	J	39k 1/8W Carbon	AA
R1617	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R1618	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R1619	VRD-RA2BE474J	J	470k1/8W Carbon	AA
R1620	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R1803	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R1804	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R1805	VRD-RA2BE104J	J	100k1/8W Carbon	AA
R1806	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2001	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2002	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R2003	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R2004	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R2005	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2006	VRD-RA2BE183J	J	18k 1/8W Carbon	AA
R2010	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2011	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2012	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2013	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2014	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2015	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2016	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2017	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2018	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2019	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2020	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R2021	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R2022	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R2023	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2024	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R2027	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R2028	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2029	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2030	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2031	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2032	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2033	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2034	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2039	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R2040	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2041	VRD-RA2BE101J	J	100 1/8W Carbon	AA

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MAIN UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R2046	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R2047	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2048	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2049	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R2050	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2051	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2052	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2058	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R2059	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2060	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2064	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2065	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2066	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2068	VRD-RA2EE681J	J	680 1/4W Carbon	AA
R2069	VRD-RA2HD221J	J	220 1/2W Carbon	AA
R2075	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2080	VRD-RA2BE821J	J	820 1/8W Carbon	AA
R2081	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2082	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R2083	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R2084	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2085	VRD-RA2BE271J	J	270 1/8W Carbon	AA
R2086	VRD-RA2BE271J	J	270 1/8W Carbon	AA
R2087	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R2088	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R2094	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R2096	VRN-SC2BP101F	J	100 1/8W Metal Film	AA
R2097	VRD-RA2BE824J	J	820k1/8W Carbon	AA
R2098	VRN-SC2BP332F	J	3.3k 1/8W Metal Film	AA
R2099	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2100	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R2102	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2103	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2104	VRD-RA2BE823J	J	82k 1/8W Carbon	AA
R2105	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2106	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2107	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2108	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R2109	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2113	VRD-RA2BE1R0J	J	1 1/8W Carbon	AA
R2114	VRD-RA2BE183J	J	18k 1/8W Carbon	AA
R2115	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2116	VRD-RA2BE104J	J	100k1/8W Carbon	AA
R2117	VRD-RA2BE104J	J	100k1/8W Carbon	AA
R2118	VRD-RA2BE224J	J	220k1/8W Carbon	AA
R2119	VRD-RA2BE224J	J	220k1/8W Carbon	AA
R2120	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2121	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2122	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2123	VRD-RA2BE104J	J	100k1/8W Carbon	AA
R2124	VRD-RA2BE823J	J	82k 1/8W Carbon	AA
R2125	VRD-RA2BE103J	J	10k 1/8W Carbon	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R2126	VRD-RA2BE224J	J	220k1/8W Carbon	AA
R2127	VRD-RA2BE104J	J	100k1/8W Carbon	AA
R2129	VRD-RA2BE822J	J	8.2k 1/8W Carbon	AA
R2130	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2131	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2134	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R2135	VRD-RA2BE124J	J	120k1/8W Carbon	AA
R2136	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R2138	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2139	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R2141	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2142	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R2144	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2145	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R2147	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2148	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2151	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2152	VRD-RA2BE5R6J	J	5.6 1/8W Carbon	AA
R2153	VRD-RA2BE5R6J	J	5.6 1/8W Carbon	AA
R2154	VRD-RA2BE5R6J	J	5.6 1/8W Carbon	AA
R2155	VRD-RA2BE5R6J	J	5.6 1/8W Carbon	AA
R2164	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2165	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2166	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R2167	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2168	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R2169	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2170	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2171	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R2172	VRD-RA2BE181J	J	180 1/8W Carbon	AA
R2174	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2175	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2176	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2177	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2179	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R2180	VRD-RA2BE154J	J	150k1/8W Carbon	AA
R2181	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2182	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2183	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R2184	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2185	VRD-RA2BE104J	J	100k1/8W Carbon	AA
R2187	VRD-RA2BE124J	J	120k1/8W Carbon	AA
R2188	VRD-RA2HD1R8J	J	1.8 1/2W Carbon	AA
R2192	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R2193	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R2401	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R2402	VRD-RA2BE821J	J	820 1/8W Carbon	AA
R2403	VRD-RA2BE393J	J	39k 1/8W Carbon	AA
R2404	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R2405	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2406	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2407	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2408	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2409	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2410	VRD-RA2BE102J	J	1k 1/8W Carbon	AA

Ref. No.	Part No.	★	Description	Code

DUNTK6901DE56
MAIN UNIT (Continued)

RESISTORS (Continued)

R2411	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2412	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
R2413	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2414	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2415	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2416	VRD-RA2BE121J	J	120	1/8W	Carbon	AA
R2418	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2421	VRD-RA2BE823J	J	82k	1/8W	Carbon	AA
R2436	VRD-RA2BE333J	J	33k	1/8W	Carbon	AA
R2437	VRD-RA2BE333J	J	33k	1/8W	Carbon	AA
R2438	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2451	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2452	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2453	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2454	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2455	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2456	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2457	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2459	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2460	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2462	VRD-RA2BE105J	J	1M	1/8W	Carbon	AA
R2463	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2464	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2465	VRD-RA2BE683J	J	68k	1/8W	Carbon	AA
R2466	VRD-RA2BE273J	J	27k	1/8W	Carbon	AA
R2467	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2468	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2469	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2471	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2473	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2474	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2475	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2476	VRD-RA2BE105J	J	1M	1/8W	Carbon	AA
R2477	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2478	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2479	VRD-RA2BE683J	J	68k	1/8W	Carbon	AA
R2480	VRD-RA2BE273J	J	27k	1/8W	Carbon	AA
R2481	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2482	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2483	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2484	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2485	VRD-RA2BE391J	J	390	1/8W	Carbon	AA
R2486	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2487	VRD-RA2BE182J	J	1.8k	1/8W	Carbon	AA
R2489	VRD-RA2BE182J	J	1.8k	1/8W	Carbon	AA
R2490	VRD-RA2BE823J	J	82k	1/8W	Carbon	AA
R2491	VRD-RA2BE153J	J	15k	1/8W	Carbon	AA
R2492	VRD-RA2BE151J	J	150	1/8W	Carbon	AA
R2494	VRD-RA2BE271J	J	270	1/8W	Carbon	AA
R2495	VRD-RA2BE221J	J	220	1/8W	Carbon	AA
R2496	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2497	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA

Ref. No.	Part No.	★	Description	Code

RESISTORS (Continued)

R2498	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2500	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2501	VRD-RA2BE823J	J	82k	1/8W	Carbon	AA
R2502	VRD-RA2BE153J	J	15k	1/8W	Carbon	AA
R2503	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
R2504	VRD-RA2BE221J	J	220	1/8W	Carbon	AA
R2505	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
R2506	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2507	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R2508	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2509	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2512	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2513	VRD-RA2BE273J	J	27k	1/8W	Carbon	AA
R2514	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R2517	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R2519	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R2523	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2524	VRD-RA2BE823J	J	82k	1/8W	Carbon	AA
R2525	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2526	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R2527	VRD-RA2BE151J	J	150	1/8W	Carbon	AA
R2528	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2529	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
R2530	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R2531	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2536	VRN-SC2BP100F	J	10	1/8W	Metal Film	AA
R2538	VRD-RA2EE100J	J	10	1/4W	Carbon	AA
R2540	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2801	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R2802	VRD-RA2BE332J	J	3.3k	1/8W	Carbon	AA
R2803	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2804	VRD-RA2BE151J	J	150	1/8W	Carbon	AA
R2805	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R2806	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R2807	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R2808	VRD-RA2BE332J	J	3.3k	1/8W	Carbon	AA
R2809	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2810	VRD-RA2BE151J	J	150	1/8W	Carbon	AA
R2811	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R2812	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R2813	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R2814	VRD-RA2BE332J	J	3.3k	1/8W	Carbon	AA
R2815	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2816	VRD-RA2BE151J	J	150	1/8W	Carbon	AA
R2817	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R2818	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R2819	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R2821	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA

Ref. No.	Part No.	★	Description	Code

DUNTK6901DE56
MAIN UNIT (Continued)

SWITCHES

S2001	QSW-P0560CEZZ	J	Blue Screen (B.B)	AE
S2002	QSW-P0560CEZZ	J	Reverse	AE
S2006	QSW-K0051GEZZ	J	E²P ROM Initial	AB
S2008	QSW-K0076CEZZ	J	Focus Pattern	AB
S2009	QSW-K0076CEZZ	J	Video In Select	AB
S2010	QSW-K0076CEZZ	J	Power	AB
S2011	QSW-K0076CEZZ	J	Video Adjust Select	AB
S2012	QSW-K0076CEZZ	J	DAC Up	AB
S2013	QSW-K0076CEZZ	J	DAC Down	AB
S2014	QSW-K0076CEZZ	J	Status Select	AB
S2015	QSW-K0076CEZZ	J	Reset	AB
S2023	QSW-P0564CEZZ	J	Aging Switch	AE

MISCELLANEOUS PARTS

FB401	RBLN-0030CEZZ	J	Ferrite Bead	AC
J401	QSOCD0425CEZZ	J	Socket, S-Video (1)	AE
J402	QJAKE0104CEZZ	J	Jack, Video 1	AK
J403	QSOCD0425CEZZ	J	Socket, S-Video (2)	AE
J404	QJAKE0104CEZZ	J	Jack, Video 2	AK
J405	QJAKE0008TAZZ	J	Jack	AE
	PRDAR1385CEFW	J	Heat Sink	AC
	QPLGN0215CEZZ	J	Plug 2-pin	AB
	QPLGN0278GEZZ	J	Plug 2-pin	AA
	QPLGN0378GEZZ	J	Plug 3-pin	AB
	QPLGN0478GEZZ	J	Plug 4-pin	AB
	QPLGN0578GEZZ	J	Plug 5-pin	AB
	QPLGN0678GEZZ	J	Plug 6-pin	AB
	QPLGN0778GEZZ	J	Plug 7-pin	AC
	QPLGN0878GEZZ	J	Plug 8-pin	AC
	QPLGN0978GEZZ	J	Plug 9-pin	AC
	QSOCN0257GEZZ	J	Socket 2-pin	AA
	QSOCN0357GEZZ	J	Socket 3-pin	AA
	QSOCN0457GEZZ	J	Socket 4-pin	AA
	QSOCN0657GEZZ	J	Socket 6-pin	AA
	QSOCN0757GEZZ	J	Socket 7-pin	AA
	QSOCN0857GEZZ	J	Socket 8-pin	AA
	QSOCN0957GEZZ	J	Socket 9-pin	AA
	QSOCN1057GEZZ	J	Socket 10-pin	AA

—— End of MAIN UNIT ——

Ref. No.	Part No.	★	Description	Code

DUNTK6902DE05
SUB UNIT

INTEGRATED CIRCUITS

IC1001	RH-iX1781CEZZ	J	LZ93B87	AN
IC1002	VHiNJM4560M-1	J	NJM4560M	AG
IC1004	VHiTC4050AF-1	J	TC74HC4050AF	AD
IC1005	RH-iX1641CEZZ	J	CLC400AJE	AX
IC1006	RH-iX1641CEZZ	J	CLC400AJE	AX
IC1007	RH-iX1641CEZZ	J	CLC400AJE	AX
IC1403	VHiNJM318D/-1	J	NJM318D	AL
IC1404	VHiLM6321//-1	J	LM6321N	AQ
IC1405	VHiLM6321//-1	J	LM6321N	AQ
IC1406	VHiLM6321//-1	J	LM6321N	AQ

TRANSISTOR

Q1001	VS2SC2735//1E	J	2SC2735	AC

DIODES

D1001	VHDMA335///1E	J	Diode	AD
D1002	VHD1SS119//-1	J	1SS119	AB
D1003	RH-EX0153CEZZ	J	Zener Diode	AB

COILS

L1001	RCiLB0028CEZZ	J	H-Hold	AE
L1002	VP-MK220K0000	J	22μH	AB
L1004	VP-MK220K0000	J	22μH	AB
L1404	VP-MK220K0000	J	22μH	AB
L1406	VP-MK220K0000	J	22μH	AB
L1408	VP-MK220K0000	J	22μH	AB

FILTERS

FL1001	RFiLN0055CEZZ	J	Filter	AF
FL1002	RFiLN0055CEZZ	J	Filter	AF
FL1003	RFiLN0055CEZZ	J	Filter	AF

CONTROLS

R1001	RVR-M4480GEZZ	J	10k(B)	Phase	AC
R1014	RVR-M4477GEZZ	J	3.3k(B)	Phase Level	AC
R1069	RVR-M7399TAZZ	J	3.3k(B)	Clk Bias	AC
R1070	RVR-M7399TAZZ	J	3.3k(B)	Clk Bias	AC
R1071	RVR-M7399TAZZ	J	3.3k(B)	Clk Bias	AC
R1483	RVR-M4478GEZZ	J	4.7k(B)	Red Com-Amp.	AC
R1486	RVR-M4482GEZZ	J	22k(B)	Red Com-Bias	AC
R1489	RVR-M4478GEZZ	J	4.7k(B)	Blue Com-Amp.	AC
R1492	RVR-M4482GEZZ	J	22k(B)	Blue Com-Bias	AC
R1495	RVR-M4478GEZZ	J	4.7k(B)	Green Com-Amp.	AC
R1498	RVR-M4482GEZZ	J	22k(B)	Green Com-Bias	AC

Ref. No.	Part No.	★	Description	Code

DUNTK6902DE05
SUB UNIT (Continued)

CAPACITORS

C621	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C622	VCEAGA1EW107M	J	100	25V	Electrolytic	AD
C1001	VCCCTV1HH391J	J	390p	50V	Ceramic	AA
C1002	VCEAPF1EW475M	J	4.7	25V	Electrolytic	AB
C1003	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1004	VCKYTV1HB102K	J	1000p	50V	Ceramic	AA
C1005	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1006	VCKYTV1HB102K	J	1000p	50V	Ceramic	AA
C1007	VCCCTV1HH151J	J	150p	50V	Ceramic	AA
C1008	VCCCTV1HH221J	J	220p	50V	Ceramic	AA
C1009	VCCCTV1HH561J	J	560p	50V	Ceramic	AA
C1010	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1011	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1012	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1013	VCKYTV1HB103K	J	0.01	50V	Ceramic	AA
C1014	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1015	VCEAPF1CW476M	J	47	16V	Electrolytic	AC
C1016	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1017	VCKYTV1HB472K	J	4700p	50V	Ceramic	AA
C1018	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1019	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1020	VCKYTV1HB472K	J	4700p	50V	Ceramic	AA
C1021	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1022	VCKYTV1HB472K	J	4700p	50V	Ceramic	AA
C1023	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1024	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1025	VCEAPF1AW476M	J	47	10V	Electrolytic	AB
C1026	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1027	VCKYTV1HB103K	J	0.01	50V	Ceramic	AA
C1028	VCKYTV1HB103K	J	0.01	50V	Ceramic	AA
C1029	VCEAPF1CW476M	J	47	16V	Electrolytic	AC
C1030	VCEAPF1CW106M	J	10	16V	Electrolytic	AB
C1031	VCEAPF1CW476M	J	47	16V	Electrolytic	AC
C1032	VCEAPF1AW476M	J	47	10V	Electrolytic	AB
C1033	VCEAPF1CW476M	J	47	16V	Electrolytic	AC
C1041	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1042	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1043	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1044	VCCCTV1HH101J	J	100p	50V	Ceramic	AA
C1440	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1441	VCEAGA1EW107M	J	100	25V	Electrolytic	AD
C1442	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1443	VCEAGA1EW107M	J	100	25V	Electrolytic	AD
C1444	VCEAGA1CW226M	J	22	16V	Electrolytic	AB
C1445	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1446	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1447	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C1448	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1449	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C1450	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1451	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB

Ref. No.	Part No.	★	Description	Code

CAPACITORS

C1452	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C1453	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1462	VCEAGA1HW104M	J	0.1	50V	Electrolytic	AA
C1463	VCEAGA1AW227M	J	220	10V	Electrolytic	AB
C1464	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C1465	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1466	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1467	VCEAGA1HW104M	J	0.1	50V	Electrolytic	AA
C1468	VCEAGA1HW104M	J	0.1	50V	Electrolytic	AA
C1469	VCEAGA1AW227M	J	220	10V	Electrolytic	AB
C1470	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C1471	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1472	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1473	VCEAGA1HW104M	J	0.1	50V	Electrolytic	AA
C1474	VCEAGA1HW104M	J	0.1	50V	Electrolytic	AA
C1475	VCEAGA1AW227M	J	220	10V	Electrolytic	AB
C1476	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C1477	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1478	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1493	VCCCTV1HH3R0C	J	3p	50V	Ceramic	AA
C1495	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1496	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1497	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C1498	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C1499	VCEAGA1EW107M	J	100	25V	Electrolytic	AD
C1500	VCKYD41CY103N	J	0.01	16V	Ceramic	AA
C1501	VCKYAT1EX103N	J	0.01	25V	Ceramic	AA

RESISTORS

R1002	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1003	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1004	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1005	VRS-TV1JD332J	J	3.3k	1/16W	Metal Oxide	AA
R1006	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1007	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1008	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1009	VRS-TV1JD105J	J	1M	1/16W	Metal Oxide	AA
R1010	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1011	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1012	VRS-TV1JD561J	J	560	1/16W	Metal Oxide	AA
R1013	VRS-TV1JD512J	J	5.1k	1/16W	Metal Oxide	AA
R1015	VRS-TV1JD182J	J	1.8k	1/16W	Metal Oxide	AA
R1016	VRS-TV1JD822J	J	8.2k	1/16W	Metal Oxide	AA
R1017	VRS-TV1JD683J	J	68k	1/16W	Metal Oxide	AA
R1018	VRS-TV1JD103J	J	10k	1/16W	Metal Oxide	AA
R1019	VRS-TV1JD472J	J	4.7k	1/16W	Metal Oxide	AA
R1020	VRS-TV1JD472J	J	4.7k	1/16W	Metal Oxide	AA
R1021	VRS-TV1JD101J	J	100	1/16W	Metal Oxide	AA
R1022	VRS-TV1JD101J	J	100	1/16W	Metal Oxide	AA
R1023	VRS-TV1JD101J	J	100	1/16W	Metal Oxide	AA
R1024	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R1026	VRS-TV1JD103J	J	10k	1/16W	Metal Oxide	AA

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SUB UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1027	VRS-TV1JD103J	J	10k 1/16W Metal Oxide	AA
R1028	VRS-TV1JD103J	J	10k 1/16W Metal Oxide	AA
R1029	VRD-RA2HD221J	J	220 1/2W Carbon	AA
R1030	VRS-TV1JD183J	J	18k 1/16W Metal Oxide	AA
R1032	VRS-TV1JD332J	J	3.3k 1/16W Metal Oxide	AA
R1033	VRS-TV1JD331J	J	330 1/16W Metal Oxide	AA
R1034	VRS-TV1JD562J	J	5.6k 1/16W Metal Oxide	AA
R1035	VRS-TV1JD470J	J	47 1/16W Metal Oxide	AA
R1036	VRS-TV1JD241J	J	240 1/16W Metal Oxide	AA
R1037	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1038	VRS-TV1JD183J	J	18k 1/16W Metal Oxide	AA
R1040	VRS-TV1JD332J	J	3.3k 1/16W Metal Oxide	AA
R1041	VRS-TV1JD562J	J	5.6k 1/16W Metal Oxide	AA
R1042	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1043	VRS-TV1JD241J	J	240 1/16W Metal Oxide	AA
R1044	VRS-TV1JD331J	J	330 1/16W Metal Oxide	AA
R1045	VRS-TV1JD183J	J	18k 1/16W Metal Oxide	AA
R1047	VRS-TV1JD332J	J	3.3k 1/16W Metal Oxide	AA
R1048	VRS-TV1JD562J	J	5.6k 1/16W Metal Oxide	AA
R1049	VRS-TV1JD470J	J	47 1/16W Metal Oxide	AA
R1050	VRS-TV1JD241J	J	240 1/16W Metal Oxide	AA
R1051	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1052	VRS-TV1JD331J	J	330 1/16W Metal Oxide	AA
R1053	VRS-TV1JD273J	J	27k 1/16W Metal Oxide	AA
R1054	VRS-TV1JD154J	J	150k 1/16W Metal Oxide	AA
R1055	VRS-TV1JD154J	J	150k 1/16W Metal Oxide	AA
R1056	VRS-TV1JD470J	J	47 1/16W Metal Oxide	AA
R1057	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1058	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1059	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1060	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1061	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1062	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1063	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1064	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1065	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1066	VRS-TV1JD561J	J	560 1/16W Metal Oxide	AA
R1067	VRS-TV1JD392J	J	3.9k 1/16W Metal Oxide	AA
R1068	VRD-RA2HD181J	J	180 1/2W Carbon	AA
R1072	VRD-RA2HD8R2J	J	8.2 1/2W Carbon	AA
R1478	VRS-TV1JD223J	J	22k 1/16W Metal Oxide	AA
R1479	VRS-TV1JD472J	J	4.7k 1/16W Metal Oxide	AA
R1480	VRS-TV1JD472J	J	4.7k 1/16W Metal Oxide	AA
R1481	VRS-TV1JD472J	J	4.7k 1/16W Metal Oxide	AA
R1482	VRS-TV1JD102J	J	1k 1/16W Metal Oxide	AA
R1484	VRS-TV1JD102J	J	1k 1/16W Metal Oxide	AA
R1485	VRS-TV1JD563J	J	56k 1/16W Metal Oxide	AA
R1487	VRS-TV1JD183J	J	18k 1/16W Metal Oxide	AA
R1488	VRS-TV1JD102J	J	1k 1/16W Metal Oxide	AA
R1491	VRS-TV1JD563J	J	56k 1/16W Metal Oxide	AA
R1490	VRS-TV1JD102J	J	1k 1/16W Metal Oxide	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1493	VRS-TV1JD183J	J	18k 1/16W Metal Oxide	AA
R1494	VRS-TV1JD102J	J	1k 1/16W Metal Oxide	AA
R1496	VRS-TV1JD102J	J	1k 1/16W Metal Oxide	AA
R1497	VRS-TV1JD563J	J	56k 1/16W Metal Oxide	AA
R1499	VRS-TV1JD183J	J	18k 1/16W Metal Oxide	AA
R1506	VRS-TV1JD560J	J	56 1/16W Metal Oxide	AA
R1507	VRS-TV1JD6R8J	J	6.8 1/16W Metal Oxide	AA
R1508	VRS-TV1JD560J	J	56 1/16W Metal Oxide	AA
R1509	VRS-TV1JD560J	J	56 1/16W Metal Oxide	AA
R1510	VRS-TV1JD6R8J	J	6.8 1/16W Metal Oxide	AA
R1511	VRS-TV1JD560J	J	56 1/16W Metal Oxide	AA
R1512	VRS-TV1JD560J	J	56 1/16W Metal Oxide	AA
R1513	VRS-TV1JD6R8J	J	6.8 1/16W Metal Oxide	AA
R1514	VRS-TV1JD560J	J	56 1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

QPLGN0378GEZZ	J	Plug 3-pin	AB
QPLGN0678GEZZ	J	Plug 6-pin	AB
QPLGN0778GEZZ	J	Plug 7-pin	AC
QPLGN0878GEZZ	J	Plug 8-pin	AC
QSOCN1618CEZZ	J	Socket 16-pin	AE

—— End of SUB UNIT ——

Ref. No.	Part No.	★	Description	Code

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DIGITAL UNIT

INTEGRATED CIRCUITS

IC6001	VHiMB40578P-1	J	MB40578P	BD
IC6002	VHiMB40578P-1	J	MB40578P	BD
IC6003	VHiMB40578P-1	J	MB40578P	BD
IC6004	VHiCXK1201P-1	J	CXK1201P	BA
IC6005	VHiCXK1201P-1	J	CXK1201P	BA
IC6006	VHiCXK1201P-1	J	CXK1201P	BA
IC6007	VHiCX20206/-1	J	CX20206	BC
IC6008	VHiiR9431//-1	J	iR9431	AE
IC6009	VHiSN7404//-1	J	SN7404N	AE
IC6010	VHiSNHC00NS-1	J	SN74HC00NS	AC
IC6011	VHiSNHC00NS-1	J	SN74HC00NS	AC
IC6012	VHiTC4538AF-1	J	TC74HC4538AF	AH
IC6013	VHiTC4538AF-1	J	TC74HC4538AF	AH
IC6014	VHiSN574NS/-1	J	SN74HC574NS	AL
IC6015	VHiSNHC21NS-1	J	SN74HC21NS	AE
IC6016	VHiTC7SU04F-1	J	I.C.	AC
IC6017	VHiSN393NS/-1	J	SN74HC393NS	AG

TRANSISTORS

Q6001	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6002	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6003	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6004	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6005	VS2SA1162Y/-1	J	2SA1162 (Y)	AB
Q6006	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6007	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6008	VS2SA1162Y/-1	J	2SA1162 (Y)	AB
Q6009	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6010	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6011	VS2SA1162Y/-1	J	2SA1162 (Y)	AB
Q6012	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6013	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6015	VS2SC2712Y/-1	J	2SC2712 (Y)	AB
Q6016	VS2SC2735//1E	J	2SC2735	AC
Q6017	VS2SC2712Y/-1	J	2SC2712 (Y)	AB

DIODES

D6001	VHDMA335///1E	J	MA335	AD
D6002	VHDMA152WK/-1	J	MA152WK	AA
D6003	VHDMA152WK/-1	J	MA152WK	AA
D6004	VHDMA152WK/-1	J	MA152WK	AA

PACKAGED CIRCUITS

FL6002	RMPTD0011CEZZ	J	Low Pass Filter	AE
FL6003	RMPTD0011CEZZ	J	Low Pass Filter	AE
FL6004	RMPTD0011CEZZ	J	Low Pass Filter	AE

Ref. No.	Part No.	★	Description	Code

COILS AND TRANSFORMAER

L6001	RCiLF0122CEZZ	J	Coil, 100μH	AC
L6002	RCiLF0122CEZZ	J	Coil, 100μH	AC
L6003	RCiLF0122CEZZ	J	Coil, 100μH	AC
L6005	RCiLF0122CEZZ	J	Coil, 100μH	AC
L6007	RCiLF0122CEZZ	J	Coil, 100μH	AC
L6008	RCiLF0122CEZZ	J	Coil, 100μH	AC
T6001	RCiLB0029CEZZ	J	Coil	AD

CONTROL

R6020	RVR-M4480GEZZ	J	10k (B) Regulator Voltage	AC

CAPACITORS

C6001	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C6002	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C6003	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C6004	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6005	VCSATA1VE475K	J	4.7	35k	Tantalum	AD
C6006	VCSATA1VE475K	J	4.7	35k	Tantalum	AD
C6007	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6008	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6009	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6010	VCSATA1VE475K	J	4.7	35k	Tantalum	AD
C6011	VCEAGA1CW226M	J	22	16V	Electrolytic	AB
C6012	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6013	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6014	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6015	VCSATA1VE475K	J	4.7	35k	Tantalum	AD
C6016	VCEAGA1CW226M	J	22	16V	Electrolytic	AB
C6017	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6018	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6019	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6020	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6021	RC-EZ0338CEZZ	J	330	16V	Electrolytic	AC
C6022	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6023	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6024	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6025	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C6026	VCEAGA1AW477M	J	470	10V	Electrolytic	AC
C6027	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C6028	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6029	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C6030	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6031	VCEAGA1CW227M	J	220	16V	Electrolytic	AC
C6032	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C6033	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C6034	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C6035	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C6036	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C6037	VCEAGA1CW107M	J	100	16V	Electrolytic	AB

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DIGITAL UNIT (Continued)

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description			Code
C6038	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C6039	VCEAGA1AW476M	J	47	10V	Electrolytic	AA
C6040	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6041	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6042	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6043	VCQYVA1HA102J	J	1000p	50V	Mylar	AA
C6044	VCCCPA1HH221J	J	220p	50V	Ceramic	AB
C6045	VCQYVA1HA102J	J	1000p	50V	Mylar	AA
C6046	VCEAGA1AW477M	J	470	10V	Electrolytic	AC
C6047	VCEAGA1AW476M	J	47	10V	Electrolytic	AA
C6048	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6049	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6050	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6051	VCEAGA1AW477M	J	470	10V	Electrolytic	AC
C6055	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C6056	VCKYTV1HB102K	J	1000p	50V	Ceramic	AA
C6059	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C6060	VCCUTV1HJ151J	J	150p	50V	Ceramic	AA
C6062	VCCUTV1HJ561J	J	560p	50V	Ceramic	AA
C6063	VCEAGA0JW107M	J	100	6.3V	Electrolytic	AB
C6064	VCCCTV1HH330J	J	33p	50V	Ceramic	AA
C6065	VCKYTV1HB102K	J	1000p	50V	Ceramic	AA
C6066	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C6067	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6068	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C6070	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6071	RC-KZ0105CEZZ	J	0.1	50V	Ceramic	AA
C6072	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C6073	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C6074	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C6075	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C6076	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C6077	VCEAGA1AW107M	J	100	10V	Electrolytic	AB
C6078	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C6079	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C6080	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C6081	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C6085	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C6086	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C6087	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C6088	VCKYTV1EF104Z	J	0.1	25V	Ceramic	AB
C6089	VCCCTV1HH100D	J	10p	50V	Ceramic	AA

RESISTORS

Ref. No.	Part No.	★	Description				Code
R6001	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide		AA
R6002	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide		AA
R6003	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide		AA
R6007	VRS-TV1JD105J	J	1M	1/16W	Metal Oxide		AA
R6008	VRS-TV1JD101J	J	100	1/16W	Metal Oxide		AA
R6009	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide		AA
R6010	VRS-TV1JD101J	J	100	1/16W	Metal Oxide		AA
R6011	VRS-TV1JD105J	J	1M	1/16W	Metal Oxide		AA
R6012	VRS-TV1JD101J	J	100	1/16W	Metal Oxide		AA
R6013	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide		AA
R6014	VRS-TV1JD101J	J	100	1/16W	Metal Oxide		AA
R6015	VRS-TV1JD105J	J	1M	1/16W	Metal Oxide		AA
R6016	VRS-TV1JD101J	J	100	1/16W	Metal Oxide		AA
R6017	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide		AA
R6018	VRS-TV1JD101J	J	100	1/16W	Metal Oxide		AA
R6019	VRS-TV1JD273J	J	27k	1/16W	Metal Oxide		AA
R6021	VRS-TV1JD103J	J	10k	1/16W	Metal Oxide		AA
R6022	VRS-SV2HC680J	J	68	1/2W	Metal Oxide		AA
R6023	VRS-TW2ED4R7J	J	4.7	1/4W	Metal Oxide		AA
R6025	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide		AA
R6026	VRS-TV1JD222J	J	2.2k	1/16W	Metal Oxide		AA
R6027	VRS-TV1JD223J	J	22k	1/16W	Metal Oxide		AA
R6028	VRS-TV1JD562J	J	5.6k	1/16W	Metal Oxide		AA
R6029	VRS-TV1JD471J	J	470	1/16W	Metal Oxide		AA
R6030	VRS-TV1JD391J	J	390	1/16W	Metal Oxide		AA
R6031	VRS-TV1JD471J	J	470	1/16W	Metal Oxide		AA
R6032	VRS-TV1JD391J	J	390	1/16W	Metal Oxide		AA
R6033	VRS-TV1JD391J	J	390	1/16W	Metal Oxide		AA
R6035	VRS-TV1JD562J	J	5.6k	1/16W	Metal Oxide		AA
R6036	VRS-TV1JD223J	J	22k	1/16W	Metal Oxide		AA
R6037	VRS-TV1JD471J	J	470	1/16W	Metal Oxide		AA
R6039	VRS-TV1JD471J	J	470	1/16W	Metal Oxide		AA
R6041	VRS-TV1JD391J	J	390	1/16W	Metal Oxide		AA
R6043	VRS-TV1JD562J	J	5.6k	1/16W	Metal Oxide		AA
R6044	VRS-TV1JD223J	J	22k	1/16W	Metal Oxide		AA
R6045	VRS-TV1JD391J	J	390	1/16W	Metal Oxide		AA
R6046	VRS-TV1JD471J	J	470	1/16W	Metal Oxide		AA
R6047	VRS-TV1JD471J	J	470	1/16W	Metal Oxide		AA
R6048	VRS-TV1JD391J	J	390	1/16W	Metal Oxide		AA
R6057	VRS-TW2ED470J	J	47	1/4W	Metal Oxide		AA
R6058	VRS-TW2ED470J	J	47	1/4W	Metal Oxide		AA
R6059	VRS-TW2ED470J	J	47	1/4W	Metal Oxide		AA
R6060	VRS-TV1JD563J	J	56k	1/16W	Metal Oxide		AA
R6061	VRS-TV1JD563J	J	56k	1/16W	Metal Oxide		AA
R6062	VRS-TV1JD223J	J	22k	1/16W	Metal Oxide		AA
R6064	VRS-TW2ED4R7J	J	4.7	1/4W	Metal Oxide		AA
R6065	VRS-TW2ED4R7J	J	4.7	1/4W	Metal Oxide		AA
R6070	VRS-TV1JD393J	J	39k	1/16W	Metal Oxide		AA
R6071	VRS-TV1JD823J	J	82k	1/16W	Metal Oxide		AA
R6072	VRS-TV1JD683J	J	68k	1/16W	Metal Oxide		AA
R6074	VRS-TV1JD105J	J	1M	1/16W	Metal Oxide		AA
R6075	VRS-TV1JD472J	J	4.7k	1/16W	Metal Oxide		AA
R6077	VRS-TV1JD472J	J	4.7k	1/16W	Metal Oxide		AA
R6078	VRS-TV1JD103J	J	10k	1/16W	Metal Oxide		AA

Ref. No.	Part No.	★	Description	Code

DUNTK6903DE05
DIGITAL UNIT (Continued)

RESISTORS (Continued)

R6079	VRS-TV1JD392J	J	3.9k	1/16W	Metal Oxide	AA
R6080	VRS-TV1JD562J	J	5.6k	1/16W	Metal Oxide	AA
R6081	VRS-TV1JD101J	J	100	1/16W	Metal Oxide	AA
R6082	VRS-TV1JD101J	J	100	1/16W	Metal Oxide	AA
R6083	VRS-TV1JD681J	J	680	1/16W	Metal Oxide	AA
R6084	VRS-TV1JD821J	J	820	1/16W	Metal Oxide	AA
R6085	VRS-TV1JD681J	J	680	1/16W	Metal Oxide	AA
R6086	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6087	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6088	VRS-TV1JD472J	J	4.7k	1/16W	Metal Oxide	AA
R6091	VRS-TV1JD101J	J	100	1/16W	Metal Oxide	AA
R6092	VRS-TV1JD101J	J	100	1/16W	Metal Oxide	AA
R6093	VRS-TV1JD101J	J	100	1/16W	Metal Oxide	AA
R6094	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6095	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6096	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6097	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6098	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6099	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6100	VRS-TV1JD472J	J	4.7k	1/16W	Metal Oxide	AA
R6101	VRS-TV1JD102J	J	1k	1/16W	Metal Oxide	AA
R6102	VRS-TV1JD681J	J	680	1/16W	Metal Oxide	AA
R6107	VRS-TV1JD223J	J	22k	1/16W	Metal Oxide	AA

SWITCH

S6001	QSW-B0017CEZZ	J	PLL Adj.	AC

MISCELLANEOUS PARTS

	QPLGN0478GEZZ	J	Plug 4-pin	AB
	QPLGN0778GEZZ	J	Plug 7-pin	AC
	QPLGN0878GEZZ	J	Plug 8-pin	AC
	QSOCN0457GEZZ	J	Socket 4-pin	AA

—— End of DIGITAL UNIT ——

Ref. No.	Part No.	★	Description	Code

DUNTK6904DE05
LED UNIT

DIODES

D2053	RH-PX0277CEZZ	J	LED, Temp. Monitor	AG
D2054	RH-PX0277CEZZ	J	Lamp Monitor	AG

MISCELLANEOUS PARTS

	QPLGN0378GEZZ	J	Plug 3-pin	AB
	QSOCN0357GEZZ	J	Socket 3-pin	AA

—— End of LED UNIT ——

DUNTK6905DE05
R/C UNIT

INTEGRATED CIRCUIT

IC3001	RRMCU0185CEZZ	J	R/C Receiver IC	AL

CAPACITOR

C3001	VCEAGA0JW107M	J	100	6.3V	Electrolytic	AB

RESISTOR

R3001	VRD-RA2BE220J	J	22	1/8W	Carbon	AA

MISCELLANEOUS PARTS

	QPLGN0378GEZZ	J	Plug 3-pin	AB
	QSOCN0357GEZZ	J	Socket 3-pin	AA

—— End of R/C UNIT ——

Ref. No.	Part No.	★	Description	Code

DUNTK6906DE05
POWER SWITCH UNIT

SWITCH

⚠ SW701	QSW-C0030CEZZ	J	Power Switch	AL

MISCELLANEOUS PARTS

	RBiM-0003CEZZ	J	Bimetal	AN
	QPLGN0269GEZZ	J	Plug 2-pin	AB
	QPLGN0377CEZZ	J	Plug 3-pin	AB

—— End of PWOER SWITCH UNIT ——

DUNTK6986DE05
LIGHT UP (1) UNIT

DIODES

D2058	RH-PX0278CEZZ	J	LED	AB
D2059	RH-PX0278CEZZ	J	LED	AB
D2060	RH-PX0278CEZZ	J	LED	AB
D2061	RH-PX0278CEZZ	J	LED	AB
D2062	RH-PX0278CEZZ	J	LED	AB

MISCELLANEOUS PARTS

QPLGN0278GEZZ	J	Plug 2-pin	AA
QSOCN0257GEZZ	J	Socket 2-pin	AA

—— End of LIGHT UP (1) UNIT ——

DUNTK6987DE05
LIGHT UP (2) UNIT

DIODES

D2063	RH-PX0278CEZZ	J	LED	AB
D2064	RH-PX0278CEZZ	J	LED	AB

RESISTOR

R2190	VRD-RA2BE181J	J	180 1/8W Carbon	AA

MISCELLANEOUS PARTS

QPLGN0278GEZZ	J	Plug 2-pin	AA
QSOCN0257GEZZ	J	Socket 2-pin	AA

—— End of LIGHT UP (2) UNIT ——

DUNTK7411DE02
RGB UNIT

INTEGRATED CIRCUIT

IC4401	VHiHD74LS86-1	J	HD74LS86P	AE

TRANSISTORS

Q4401	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q4402	VS2SC3198-Y-1	J	2SC3198(Y)	AA
Q4403	VS2SC3198-Y-1	J	2SC3198(Y)	AA

DIODES

D4401	VHD1SS119//-1	J	1SS119	AB
D4402	VHD1SS119//-1	J	1SS119	AB
D4403	VHD1SS119//-1	J	1SS119	AB
D4404	VHD1SS119//-1	J	1SS119	AB
D4405	VHD1SS119//-1	J	1SS119	AB
D4406	VHD1SS119//-1	J	1SS119	AB
D4407	VHD1SS119//-1	J	1SS119	AB
D4408	VHD1SS119//-1	J	1SS119	AB
D4409	VHD1SS119//-1	J	1SS119	AB
D4410	VHD1SS119//-1	J	1SS119	AB
D4411	VHD1SS119//-1	J	1SS119	AB
D4412	VHD1SS119//-1	J	1SS119	AB
D4413	VHD1SS119//-1	J	1SS119	AB
D4414	VHD1SS119//-1	J	1SS119	AB
D4415	VHD1SS119//-1	J	1SS119	AB

CAPACITORS

C4401	VCEAEA1CW106M	J	10	16V	Electrolytic	AB
C4402	VCEAEA1CW106M	J	10	16V	Electrolytic	AB
C4403	VCEAEA1CW106M	J	10	16V	Electrolytic	AB
C4404	VCEAEA1HW105M	J	1	50V	Electrolytic	AB
C4405	VCEAEA1HW105M	J	1	50V	Electrolytic	AB
C4406	VCEAEA1HW105M	J	1	50V	Electrolytic	AB
C4407	VCEAEA0JW107M	J	100	6.3V	Electrolytic	AB
C4408	VCEAEA1CW107M	J	100	16V	Electrolytic	AC
C4409	VCTYPA1EF104Z	J	0.1	25V	Ceramic	AB
C4410	VCCCPA1HH100D	J	10p	50V	Ceramic	AA
C4411	VCEAEA1CW106M	J	10	16V	Electrolytic	AB
C4412	VCE9EA1CW106M	J	10	16V	Elect. (N.P)	AC

Ref. No.	Part No.	★	Description	Code

DUNTK7411DE02
RGB UNIT (Continued)

RESISTORS

R4401	VRD-RA2EE470J	J	47	1/4W	Carbon	AA
R4402	VRD-RA2EE470J	J	47	1/4W	Carbon	AA
R4403	VRD-RA2EE470J	J	47	1/4W	Carbon	AA
R4404	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R4405	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R4406	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R4407	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R4408	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R4409	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R4410	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
R4411	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
R4412	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
R4413	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R4414	VRD-RA2BE153J	J	15k	1/8W	Carbon	AA
R4415	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R4416	VRD-RA2BE122J	J	1.2k	1/8W	Carbon	AA
R4417	VRD-RA2BE103J	J	10k	1/8W	Carobn	AA
R4418	VRD-RA2BE103J	J	10k	1/8W	Carobn	AA
R4419	VRD-RA2BE103J	J	10k	1/8W	Carobn	AA
R4420	VRD-RA2BE103J	J	10k	1/8W	Carobn	AA
R4421	VRD-RA2BE271J	J	270	1/8W	Carbon	AA
R4422	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R4423	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R4424	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R4425	VRD-RA2BE181J	J	180	1/8W	Carbon	AA
R4426	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
R4427	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R4428	VRD-RA2BE103J	J	10k	1/8W	Carobn	AA
R4429	VRD-RA2BE180J	J	18	1/8W	Carbon	AA
R4430	VRD-RU2EE330J	J	33	1/4W	Carbon	AA
R4431	VRD-RU2EE330J	J	33	1/4W	Carbon	AA
R4432	VRD-RU2EE330J	J	33	1/4W	Carbon	AA

MISCELLANEOUS PARTS

J4401	QSOCN1539CEZZ	J	Socket 15-pin	AH
	QPLGN0580GEZZ	J	Plug 5-pin	AB
	QPLGN0780GEZZ	J	Plug 7-pin	AC
	QPLGN1080GEZZ	J	Plug 10-pin	AC

—— End of RGB UNIT ——

Ref. No.	Part No.	★	Description	Code

RDENC0050CEZZ
BALLAST UNIT

PACKAGED CIRCUITS

IC701	95KUCZ0154ZZ	J	STR-D1005T	AV
IC702	95KUCH0098ZZ	J	Hybrid IC, M67170	BA
IC703	95KUCC0021GZ	J		AG

TRANSISTORS

⚠ Q701	95KUAG0062AZ	J	2SK1180, FET	AT
⚠ Q702	95KUAC0240CZ	J	2SC4297-0	AN
⚠ Q703	95KUAC0240CZ	J	2SC4297-0	AN
⚠ Q704	95KUAC0240CZ	J	2SC4297-0	AN
⚠ Q705	95KUAC0240CZ	J	2SC4297-0	AN
⚠ Q706	95KUAC0232AZ	J	2SC3631	AF

DIODES

⚠ D701	95KUBC0165BK	J	ERA38-05V1	AD
D702	95KUBB0191AZ	J	FMG-G36S	AM
D703	95KUBC0078DK	J	ERB44-06V1	AC
D704	95KUBC0078DK	J	ERB44-06V1	AC
D705	95KUBC0078DK	J	ERB44-06V1	AC
D706	95KUBC0078DK	J	ERB44-06V1	AC
D707	95KUBC0227FZ	J	SHV-12	AP
D708	95KUBC0204AZ	J	RU2YX	AD
D709	95KUBC0070AL	J	ERA81-004V1	AD
D710	95KUBC0070AL	J	ERA81-004V1	AD
D711	95KUBC0248AK	J	05NU42 TPA2	AC
D712	95KUBC0187AK	J	ERA91-02V1	AD
D713	95KUBC0187AK	J	ERA91-02V1	AD
D714	95KUBC0187AK	J	ERA91-02V1	AD
D715	95KUBC0187AK	J	ERA91-02V1	AD
ZD701	95KUBDAK160D	J	RD16ESAB3-T4, Zener	AB

COILS ANDTRANSFORMERS

⚠ L701	95KUKZ0382ZZ	J	Line Filter, SE28V-30045	AU
⚠ L702	95KUKZ0185ZZ	J	Line Filter, SE28V-25050	AU
⚠ L703	95K129025014	J	Choke Coil, CHT054	AR
L704	95KUKZ0388ZZ	J	Coil, SN-10-500T	AN
L705	95KUKZ0388ZZ	J	Coil, SN-10-500T	AN
⚠ T701	95K129615018	J	Trans., DTTJ01	AQ
⚠ T702	95KZBZ0110ZZ	J	Trans., B128	AS
⚠ T703	95K348695010	J	Trans., E1160-9001A	BL
⚠ T704	95K129615024	J	Trans., PTTP64	AW
⚠ T705	95K115615004	J	Trans., E1160-9002A	AS

CONTROL

VR701	95KUFBA502CA	J	5k(B)	AC

Ref. No.	Part No.	★	Description	Code

RDENC0050CEZZ
BALLAST UNIT (Continued)

PACKAGED CIRCUITS

⚠ PC701	95KUDC0065BB	J	Photo Coupler, TLP634		AL
SS701	95KUZZ0117ZZ	J	K1V10		AM
SS702	95KUZZ0117ZZ	J	K1V10		AM

CAPACITORS

⚠ C701	95KUGFZ474FH	J	0.47	250V	Film	AL
⚠ C702	95KUGCQ222AB	J	2200p		Ceramic	AD
⚠ C703	95KUGCQ222AB	J	2200p		Ceramic	AD
⚠ C704	95KUGCQ102AB	J	1000p		Ceramic	AC
⚠ C705	95KUGCQ102AB	J	1000p		Ceramic	AC
⚠ C706	95KUGFZ224FH	J	0.22	250V	Film	AF
C707	95KUGZ0793ZZ	J	150	450V	Electrolytic	AT
C708	95KUGZ0793ZZ	J	150	450V	Electrolytic	AT
C711	95KUGCU221AJ	J	220p	1kV	Ceramic	AB
C712	95KUGZ0777ZZ	J	0.47	400V	Film	AG
C713	95KUGZ0777ZZ	J	0.47	400V	Film	AG
C714	95KUGZ0777ZZ	J	0.47	400V	Film	AG
⚠ C715	95KUGZ0778ZZ	J	1500p	6kV	Film	AH
C716	95KUGCU222DN	J	2200p		Ceramic	AC
C717	95KUGAD101HP	J	100	25V	Electrolytic	AD
C718	95KUGAF221EV	J	220	50V	Electrolytic	AD
C719	95KUGAD101HP	J	100	25V	Electrolytic	AD
C720	95KUGAD101HP	J	100	25V	Electrolytic	AD
C721	95KUGZ0800ZZ	J	10	50V	Electrolytic	AC
C722	95KUGZ0799ZZ	J	1	50V	Electrolytic	AC
C723	95KUGZ0798ZZ	J	10	25V	Electrolytic	AC
C724	95KUGZ0799ZZ	J	1	50V	Electrolytic	AC
C725	95KUGCU472BC	J	4700p	1kV	Ceramic	AD
C726	95KUGCU472BC	J	4700p	1kV	Ceramic	AD
C727	95KUGCU472BC	J	4700p	1kV	Ceramic	AD
C728	95KUGCU472BC	J	4700p	1kV	Ceramic	AD
C729	95KUGAC470DC	J	47	16V	Electrolytic	AB

RESISTORS

⚠ R701	95KUEGGR10AS	J	0.1	5W	Cement	AE
⚠ R702	95KUEBZ5R1AA	J	5.1	5W	Cement	AH
⚠ R703	95KUEFDR33BJ	J	0.33	1W	Metal Film	AB
⚠ R704	95KUEFD151BH	J	150	1W	Metal Film	AB
R705	95KUEFD2R7BJ	J	2.7	1/2W	Metal Film	AB
R706	95KUEEB330BF	J	33	1/4W	Carbon	AA
R707	95KUEFD2R7BJ	J	2.7	1W	Metal Film	AB
R708	95KUEEB330BF	J	33	1/4W	Carbon	AA
R709	95KUEFD2R7BJ	J	2.7	1W	Metal Film	AB
R710	95KUEEB330BF	J	33	1/4W	Carbon	AA
R711	95KUEFD2R7BJ	J	2.7	1W	Metal Film	AB
R712	95KUEEB330BF	J	33	1/4W	Carbon	AA
R713	95KUEGG202AP	J	2k	5W	Cement	AE

Ref. No.	Part No.	★	Description	Code

RESISTORS

R714	95KUEGG202AP	J	2k	5W	Cement	AE
R715	95KUEZ0449ZZ	J	820k	1/2W	Metal Film	AB
R716	95KUEFD683BH	J	68k	1W	Metal Film	AB
R717	95KUEFD330BH	J	33	1W	Metal Film	AB
R718	95KUEFE1R2BJ	J	1.2	2W	Metal Film	AB
R719	95KUEFE1R2BJ	J	1.2	2W	Metal Film	AB
⚠ R720	95KUEFC220AV	J	22	1/2W	Metal Film	AB
R721	95KUEEB102BF	J	1k	1/4W	Carbon	AA
	or					
	95KUEEB102BE	J	1k	1/4W	Carbon	AA
R723	95KUEGGR22AT	J	0.22	5W	Cement	AE

RELAY

⚠ RY701	95KPHZ0096ZZ	J	Relay		AL

MISCELLANEOUS PARTS

⚠ F701	95KPJCTB3151	J	Fuse T3.15A, 250V		AD
⚠ F702	95KPJP0019ZZ	J	IC Protector, 1A		AF
⚠ FB701	95KBFZ89250Z	J	Ferrite Bead		AB
⚠ FB702	95KBFZ89250Z	J	Ferrite Bead		AB
FB703	95KBFZ89250Z	J	Ferrite Bead		AB
FB704	95KBFZ89250Z	J	Ferrite Bead		AB
FH1	95KPZZ0625ZZ	J	Fuse Holder, ×2 used		AB
⚠ G701	95KPZZ0706ZZ	J	Spark Gap		AR

—— End of BALLAST UNIT ——

RDENC0049CEZZ
POWER UNIT

Ref. No.	Part No.	★	Description	Code
INTEGRATED CIRCUITS				
⚠IC1	95KUCH0097ZZ	J	ZHMA5194	AG
IC2	95KUCC0016EZ	J	M5F78M09	AG
IC4	95KUCB0030AZ	J	UPC7812HF-1	AG
IC6	95KUCB0034DZ	J	UPC79N12H	AG
IC7	95KUCB0054BZ	J	UPC79M08HF	AG
IC8	95KUCB0084AZ	J	PQ30RV2	AK
TRANSISTORS				
⚠Q1	95KUAC0234AZ	J	2SC3866	AH
⚠Q2	95KUAC0027CK	J	2SC2655-Y(TPE6,C)	AD
Q5	95KUAC0004AK	J	2SC945-T	AB
DIODES				
⚠D1	95KUBC0169DK	J	ERA22-08V1	AD
⚠D3	95KUBC0221AK	J	ERA18-02V1	AC
⚠D4	95KUBA0005KZ	J	1SS55-T4	AB
⚠D5	95KUBC0221AK	J	ERA18-02V1	AC
D6	95KUBC0093AK	J	ERA84-0009V1	AE
D8	95KUBC0174AD	J	ERB93-02L6	AE
D9	95KUBC0221AK	J	ERA18-02V1	AC
D10	95KUBC0174AZ	J	ERB93-02	AF
D11	95KUBB0066BT	J	ESAB85M-009	AH
⚠D12	95KUBC0169DK	J	ERA22-08V1	AD
⚠DS1	95KUBB0130DB	J	D2SB60-F4004	AG
DS2	95KUBB0158AT	J	ESAB92M-02	AG
ZD1	95KUBDAK130C	J	RD13ESAB2-T4	AB
ZD2	95KUBDAK110C	J	RD11ESAB2-T4	AB
ZD3	95KUBDAK100C	J	RD10ESAB2-T4	AB
ZD4	95KUBDAK6R2C	J	RD6.2ESAB2-T4	AB
ZD5	95KUBDAK200B	J	RD20ESAB1-T4	AB
⚠SCR1	95KUDA0033DL	J	Thyristor (CR02AM-6-TB)	AD
PACKAGED CIRCUIT				
⚠PC1	95KUDC0065LB	J	Photo Couplor (TLP634)	AK
⚠PC2	95KUDC0065LB	J	Photo Couplor (TLP634)	AK
COILS AND TRANSFORMER				
⚠L1	95KUKZ0465ZZ	J	Filter (ELF-18D221F)	AM
L2	95KUKZ0434ZZ	J	Choke Coil, 33μH	AE
⚠T1	95K129295016	J	Transformer (PTTP63)	AX

Ref. No.	Part No.	★	Description	Code
CONTROLS				
VR2	95KUFBA502CD	J	5k(B) +12V Adj.	AC
VR3	95KUFBA502CD	J	5k(B) +5V Adj.	AC
R39	95KUFBA104CR	J	100k	AE
CAPACITORS				
⚠C2	95KUGFM104EK	J	0.1 250V Film	AG
⚠C5	95KUGCQ222AB	J	2200p Ceramic	AD
⚠C6	95KUGBQ680BT	J	68 400V Electrolytic	AP
⚠C7	95KUGFQ103FB	J	0.01 400V Film	AC
⚠C9	95KUGFF104BQ	J	0.1 Film	AC
⚠C10	95KUGCU101AJ	J	100p 1kV Ceramic	AC
⚠C11	95KUGAF4R7HN	J	4.7 50V Electrolytic	AB
⚠C12	95KUGFF102BQ	J	1000p Film	AB
⚠C13	95KUGFF473BQ	J	0.047 Film	AB
⚠C14	95KUGFF683BQ	J	0.068 Film	AB
C15	95KUGAE470HN	J	47 35V Electrolytic	AC
C17	95KUGAD221GK	J	220 25V Electrolytic	AE
C18	95KUGAE470HN	J	47 35V Electrolytic	AC
C19	95KUGAD222FE	J	2200 25V Electrolytic	AG
C20	95KUGAC222GK	J	2200 16V Electrolytic	AH
C21	95KUGAC100HN	J	10 16V Electrolytic	AB
C22	95KUGAC222MF	J	2200 16V Electrolytic	AH
C23	95KUGAC471HN	J	470 16V Electrolytic	AD
C24	95KUGAC470HN	J	47 16V Electrolytic	AB
C26	95KUGAC331FD	J	330 16V Electrolytic	AF
C27	95KUGAC470HN	J	47 16V Electrolytic	AB
C28	95KUGAC470HN	J	47 16V Electrolytic	AB
C29	95KUGAF010HN	J	1 50V Electrolytic	AB
C30	95KUGAC101HN	J	100 16V Electrolytic	AC
C32	95KUGAC101HN	J	100 16V Electrolytic	AC
C33	95KUGFF473BQ	J	0.047 Film	AB
⚠C34	95KUGCQ222AB	J	2200p Ceramic	AD
⚠C36	95KUGCZ102BQ	J	1000p 500V Ceramic	AB
⚠C37	95KUGFZ474FE	J	0.47 250V Film	AH
⚠C38	95KUGCQ222AB	J	2200p Ceramic	AD
⚠C39	95KUGCQ222AB	J	2200p Ceramic	AD
RESISTORS				
⚠R2	95KUEAE2R2AA	J	2.2 2W Carbon	AD
⚠R3	95KUEFD393BH	J	39k 1W Metal Film	AB
⚠R4	95KUEFD393BF	J	39k 1W Metal Film	AB
⚠R5	95KUEEC334AT	J	330k 1/2W Carbon	AA
⚠R6	95KUEFE473AV	J	47k 2W Metal Film	AC
⚠R7	95KUEEC180AT	J	18 1/2W Carbon	AA
	or			
	95KUEEC180AM	J	18 1/2W Carbon	AA
⚠R9	95KUEFD470BH	J	47 1W Metal Film	AB
⚠R10	95KUEFD470BH	J	47 1W Metal Film	AB

RDENC0049CEZZ
POWER UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
⚠R11	95KUEEC471AT	J	470 1/2W Carbon	AA
	or			
	95KUEEC471AM	J	470 1/2W Carbon	AA
⚠R12	95KUEEB472BF	J	4.7k 1/4W Carbon	AA
	or			
	95KUEEB472BE	J	4.7k 1/4W Carbon	AA
⚠R13	95KUEEB102BF	J	1k 1/4W Carbon	AA
	or			
	95KUEEB102BE	J	1k 1/4W Carbon	AA
⚠R14	95KUEEB183BF	J	18k 1/4W Carbon	AA
	or			
	95KUEEB183BE	J	18k 1/4W Carbon	AA
⚠R15	95KUEEB562BF	J	5.6k 1/4W Carbon	AA
	or			
	95KUEEB562BE	J	5.6k 1/4W Carbon	AA
R21	95KUEEB122BF	J	1.2k 1/4W Carobn	AA
	or			
	95KUEEB122BE	J	1.2k 1/4W Carobn	AA
R22	95KUEEB271BF	J	270 1/4W Carbon	AA
	or			
	95KUEEB271BE	J	270 1/4W Carbon	AA
R23	95KUEEB472BF	J	4.7k 1/4W Carbon	AA
	or			
	95KUEEB472BE	J	4.7k 1/4W Carbon	AA
R24	95KUEEB272BF	J	2.7k 1/4W Carobn	AA
	or			
	95KUEEB272BE	J	2.7k 1/4W Carobn	AA
R25	95KUEEB472BF	J	4.7k 1/4W Carbon	AA
	or			
	95KUEEB472BE	J	4.7k 1/4W Carbon	AA
⚠R26	95KUEFD393BF	J	39k 1W Metal Film	AB
⚠R27	95KUEEC334AT	J	330k1/2W Carbon	AA
	or			
	95KUEEC334AM	J	330k1/2W Carbon	AA
R28	95KUEEB122BF	J	1.2k 1/4W Carobn	AA
	or			
	95KUEEB122BE	J	1.2k 1/4W Carobn	AA
R29	95KUEEB271BF	J	270 1/4W Carbon	AA
	or			
	95KUEEB271BE	J	270 1/4W Carbon	AA
R30	95KUEEC221AT	J	220 1/2W Carbon	AA
	or			
	95KUEEC221AM	J	220 1/2W Carbon	AA
R31	95KUEEC221AT	J	220 1/2W Carbon	AA
	or			
	95KUEEC221AM	J	220 1/2W Carbon	AA
⚠R32	95KUEZ0403ZK	J	6.8 Posistor	AF
R33	95KUEEB101BF	J	100 1/4W Carbon	AA
	or			
	95KUEEB101BE	J	100 1/4W Carbon	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R34	95KUEEB102BF	J	1k 1/4W Carbon	AA
	or			
	95KUEEB102BE	J	1k 1/4W Carbon	AA
R39	*See Controls*			
⚠R41	95KUEBBR82AL	J	0.82 Fuse Resistor	AC
⚠R43	95KUEEC394AT	J	390k1/2W Carbon	AA
	or			
	95KUEEC394AM	J	390k1/2W Carbon	AA
R44	95KUEEB103BF	J	10k 1/4W Carbon	AA
	or			
	95KUEEB103BE	J	10k 1/4W Carbon	AA
R45	95KUEEB392BF	J	3.9k 1/4W Carbon	AA
	or			
	95KUEEB392BE	J	3.9k 1/4W Carbon	AA

MISCELLANEOUS PARTS

⚠F1	95KPJCTG2001	J	Fuse, T2AH, 250V	AG
⚠F2	95KPJCAY5001	J	Fuse, T5A, 250V	AD
FH1	95KPZZ0625ZZ	J	Fuse Holder	AB
PA	95KPKZ0529ZZ	J	Connector, 9-pin	AD
PB	95KPKZ0540ZZ	J	Connector, 4-pin	AB
PC	95KPKZ0522ZZ	J	Connector, 2-pin	AB

—— End of POWER UNIT ——

Ref. No.	Part No.	★	Description	Code

RUNTK0355CEZZ
RELAY UNIT

Ref. No.	Part No.	★	Description	Code
	INTEGRATED CIRCUIT			
IC51	95KUCB0059GZ	J	UPC24M12HF	AK
	TRANSISTORS			
Q51	95KUAZ0049ZZ	J	BA1A3Q-T	AB
Q52	95KUAZ0049ZZ	J	BA1A3Q-T	AB
	DIODES			
D51	95KUBC0150AK	J	11ES1-TA2B2	AB
D52	95KUBC0150AK	J	11ES1-TA2B2	AB
D53	95KUBC0150AK	J	11ES1-TA2B2	AB
D54	95KUBC0150AK	J	11ES1-TA2B2	AB
D55	95KUBA0004KZ	J	1SS53-T4	AB
D56	95KUBA0004KZ	J	1SS53-T4	AB
	COIL AND TRANSFORMER			
⚠L51	95K129025010	J	Choke Coil	AR
⚠T51	95K115025050	J	Transformer	AW
	CAPACITORS			
C51	95KUGAE102HD	J	1000 35V Electrolytic	AF
C53	95KUGAD470HN	J	47 25V Electrolytic	AC
⚠C54	95KUGFZ683FE	J	0.068 250V Film	AE
⚠C55	95KUGFZ474FE	J	0.47 250V Film	AH
	RELAYS			
⚠RY51	95KPHZ0096ZZ	J	DG12D1-0(M)	AL
⚠RY52	95KPHZ0096ZZ	J	DG12D1-0(M)	AL
	MISCELLANEOUS PARTS			
⚠F51	95KPJCTG5001	J	Fuse, T5AH, 250V	AG
O2	95KPZZ0625ZZ	J	Fuse Holder, ×2 used	AB
AC	95KPKZ0430ZZ	J	Connector, 4-pin	AD
BA	95KPKZ0221ZZ	J	Connector, 3-pin	AB
BU	95KPKZ0526ZZ	J	Connector, 6-pin	AC
FA	95KPKZ1008ZZ	J	Connector, 4-pin	AC
FB	95KPKZ1069ZZ	J	Connector, 4-pin	AC
PL	95KPKZ0522ZZ	J	Connector, 2-pin	AB
PO	95KPKZ0194ZZ	J	Connector, 3-pin	AC
PS	95KPKZ0194ZZ	J	Connector, 3-pin	AC

—— End of RELAY UNIT ——

RRMCG0843CESA
REMOTE CONTROL UNIT

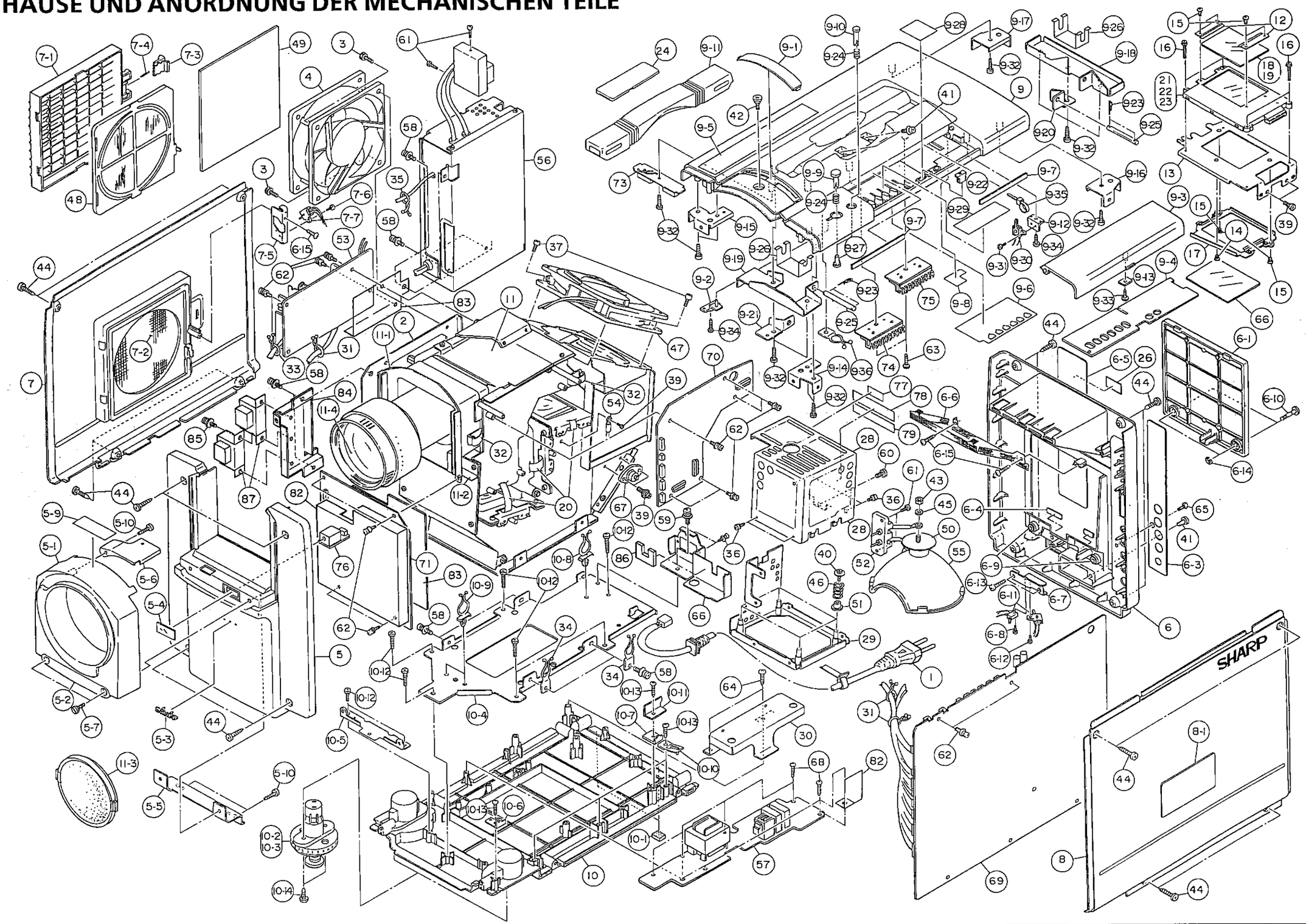
Ref. No.	Part No.	★	Description	Code
	INTEGRATED CIRCUIT			
IC3001	RH-iX1288PAZZ	J	Microprocessor	AN
	TRANSISTORS			
Q3001	VS2SD596DV3-1	J	2SD596	AC
Q3002	VS2SC2411KQ-1	J	2SC2411K	AC
Q3003	VS2SA812M5/-1	J	2SA812	AA
	DIODES			
D3001	RH-PX0128PAZZ	J	LED, SE313	AE
D3002	RH-PX0128PAZZ	J	LED, SE313	AE
D3003	RH-PX0128PAZZ	J	LED, SE313	AE
D3004/ 3005/ 3006/ 3007/ 3008/ 3009	DUNT-0055PAZZ	J	LEDs, SLP-681C ×6 pcs	AN
D3010	VHD1S2837//-1	J	1S2837	AB
	CERAMIC FILTER			
CF3001	RFiLA0003CEZZ	J	Ceramic Osc., 455kHz	AE
	or			
	RFiLA0095PAZZ	J		AC
	MISCELLANEOUS PARTS			
BZ3001	RALMB0007PAZZ	J	Buzzer	AF
SW3001	QSW-P0082PAZZ	J	Switch, EVQPBC05K	AB
SW3002	QSW-P0082PAZZ	J	Switch, EVQPBC05K	AB
	CABINET PARTS			
	GCABA0280AASA	J	Top Cabinet	AM
	GCABB0234AASA	J	Bottom Cabinet	AF
	GCOVH0101PASA	J	Battery Cover	AC
	QSW-Z0020PAZZ	J	Control Keys	BB
	QTANZ0216PAZZ	J	Batt. Terminal ± (A)	AB
	QTANZ0230PAZZ	J	Batt. Terminal ± (B)	AB
	QTANZ0269PAZZ	J	Batt. Terminal +	AB
	QTANZ0270PAZZ	J	Batt. Terminal −	AB
	XYBSD20P06000	J	Screw, 2.0×6, (4 used)	AA
	XYBSF20P08000	J	Screw, 2.0×8, (3 used)	AA

—— End of REMOTE CONTROL UNIT ——

CABINET AND MECHANICAL PARTS

Ref. No.	Part No.	★	Description	Code
⚠1	QACCV2008CESA	J	AC Cord	AN
2	LANGT9837CE00	J	DC Fan Bracket	AT
3	LX-BZ3214CEFF	J	Screw	AB
4	NFANR0020CE00	J	DC Fan	BB
5	CBDYF1035CEK1	J	Front Body Ass'y	BD
5-1	GBDYF1015CEKD	J	Front Body-B	AR
5-2	GCOVA1356CESA	J	R/C Receiver Cover	AN
5-3	HBDGB1017CESA	J	Badge "SHARP"	AC
5-4	HiNDP3683CESA	J	Indication Plate, R/C Receiver	AC
5-5	LANGT9816CEFW	J	Frame Bracket	AE
5-6	LANGT9818CEFW	J	Frame Bracket	AC
5-7	LX-HZ3038CEFF	J	Screw	AB
5-8	*Not used*			
5-9	HiNDP4089CESA	J	Caution Label	AC
5-10	XEPSD40P12000	J	Screw	AA
6	CBDYR1003CEK3	J	Rear Cabinet Ass'y	BD
6-1	GCOVA1404CEKB	J	Lump Cover	AL
6-3	HiNDP3900CESA	J	Indication Plate, Jack	AE
6-4	HiNDP4115CESA	J	Indication Plate	AC
6-5	HiNDP4113CESA	J	Indication Plate, Model	AF
6-6	HPNC-0231CESB	J	Rear Punching	AL
6-7	LANGQ1306CEFW	J	Bracket	AD
6-8	XSPSF20P06000	J	Screw	AA
6-9	LX-NZ3102CEFW	J	Nut	AB
6-10	LX-TZ3054CESF	J	Screw	AD
6-11	QCNW-3118CEZZ	J	Leaf Switch	AP
6-12	XBPSD26P04000	J	Screw	AA
6-13	XEPSD40P12000	J	Screw	AA
6-14	XRESJ30-06000	J	E-Ring	AA
6-15	XTASD30P12000	J	Screw	AA
7	CBDYS1031CEK1	J	Left Body Ass'y	BA
7-1	GCOVA1355CEKD	J	Fan Cover	AL
7-2	HPNC-0230CESA	J	Fan Punching	AL
7-3	JBTN-1677CESD	J	Button	AF
7-4	MSPRC0118CEFW	J	Spring	AB
7-5	LANGQ1295CEFW	J	Leaf Switch Bracket	AC
7-6	XBPSD26P04000	J	Screw	AA
7-7	QCNW-2792CEZZ	J	Leaf Switch	AH
8	CBDYS1030CEK3	J	Right Cabinet Ass'y	AX
8-1	HDECA0720CESA	J	Decoration Plate	AG
9	CBDYT1004CEK1	J	Top Body Ass'y	BN
9-1	GCOVA1357CESA	J	Top Cover	AH
9-2	GCOVA1358CESA	J	LED Cover	AC
9-3	GDORT1049CEKD	J	Door	AH
9-4	HiNDP3899CESA	J	Indication Plate, Control	AE
9-5	HiNDP4116CESB	J	Seal	AD
9-6	HiNDP3723CEZZ	J	Body Rear Seal	AE
9-7	HiNDP3724CEZZ	J	Indoor Seal	AD
9-8	HiNDP3725CEZZ	J	Body Rear Seal	AC
9-9	JBTN-1674CESF	J	Button, Power	AE
9-10	JBTN-1675CESB	J	Button, Focus	AE
9-11	JHNDA1014CESB	J	Grip	AZ
9-12	LANGQ1296CEFW	J	Leaf Switch Bracket	AC
9-13	LANGT9788CEZZ	J	Plate	AC
9-14	LANGT9802CEFW	J	Body Bracket	AD
9-15	LANGT9803CEFW	J	Body Bracket	AD
9-16	LANGT9804CEFW	J	Body Bracket	AC
9-17	LANGT9805CEFW	J	Body Bracket	AC
9-18	LANGT9810CEFW	J	Grip Bracket	AF
9-19	LANGT9811CEFW	J	Grip Bracket	AG
9-20	LANGT9812CE00	J	Grip Bracket	AF
9-21	LANGT9813CE00	J	Grip Bracket	AF
9-22	LHLDZ3035GEZZ	J	Magnet Holder	AD
9-23	LX-PZ3010CEFD	J	Pin	AA
9-24	MSPRC0129CEFW	J	Spring	AA
9-25	NSFTH0010CE00	J	Shaft	AC
9-26	PCOVU2042CE00	J	Light Cover	AC
9-27	PGIDM0015CE00	J	Button, Guide	AC
9-28	PMiR-0030CEZZ	J	Mirror	AA
9-29	PMiR-0031CEZZ	J	Mirror	AC
9-30	QCNW-2793CEZZ	J	Leaf Switch	AH
9-31	XBPSD26P04000	J	Screw	AA
9-32	XEPSD40P12000	J	Screw	AA
9-33	XESSN20P06000	J	Screw	AA
9-34	XTASD30P12000	J	Screw	AA
9-35	LHLDW1033CE00	J	Wire Holder	AA
9-36	LHLDW1046CEZZ	J	Wire Holder	AA
10	CBDYU1005CEK1	J	Bottom Cabinet Ass'y	BC
10-1	GLEGG9032CE00	J	Rubber Leg	AC
10-2	GLEGP9068CEKA	J	Right Leg	AP
10-3	GLEGP9069CEKA	J	Left Leg	AP
10-4	LANGT9801CEFW	J	Mechanical Bracket	AP
10-5	LANGT9898CEFW	J	PWB Bracket	AD
10-6	LANGT9838CEFW	J	Bracket	AC
10-7	LANGT9839CEFW	J	Ground Plate	AC
10-8	LHLDW1007GEZZ	J	Wire Holder	AB
10-9	LHLDW1093GEZZ	J	Wire Holder	AB
10-10	LHLDZ1616CEZZ	J	P.W.B Holder	AB
10-11	PZETV0519CEZZ	J	Insulating Sheet	AC
10-12	XEPSD40P12000	J	Screw	AA
10-13	XTASD30P12000	J	Screw	AA
10-14	XTASF40P12000	J	Screw	AA
11	CCHSK0004CE01	J	Optics Mech. Ass'y	**
11-1	GCOVH1223CEKZ	J	Lens Cover	AG
11-2	LANGT9806CEFW	J	Lens Cover Bracket	AE
11-3	PCAPH1019CESA	J	Lens Cap	AG
11-4	PLNS-0019CESA	J	Lens	CK
12	LANGK0385CEFW	J	Bracket, Polarization Plate	AD
13	LANGT9820CE00	J	Modular Panel LCD (R.G.B.)	AV
14	LX-BZ3215CEFF	J	Screw	AA
15	LX-BZ3216CEFF	J	Screw	AA
16	LX-BZ3237CEFF	J	Screw	AC
17	PFiLW0012CEZZ	J	Polarization Plate Filter-B	AZ

CABINET AND MECHANICAL PARTS LOCATION / GEHÄUSE UND ANORDNUNG DER MECHANISCHEN TEILE



Ref. No.	Part No.	★	Description	Code

CABINET AND MECHANICAL PARTS (Continued)

18	PFiLW0015CEZZ	J	Polarization Plate Filter-A (Red)	AX
19	PFiLW0016CEZZ	J	Polarization Plate Filter-A (Green, Blue)	AX
20	QCNW-3413CEZZ	J	Flexible Module Connector	AN
21	RUNTK0297CEZZ	J	G-LCD Unit	**
22	RUNTK0298CEZZ	J	R-LCD Unit	**
23	RUNTK0299CEZZ	J	B-LCD Unit	**
24	GCOVA1367CESB	J	Grip Cover	AD
25	—— *Not Used* ——			
26	HiNDP4141CEZZ	J	Number Label	AB
27	—— *Not Used* ——			
28	LANGQ9115CEFD	J	Lamp Case, Top	AQ
29	LANGQ9116CEFD	J	Lamp Case, Bottom	AT
30	LANGT9808CEFW	J	Ballast Module Bracket	AG
31	LHLDW1009CEZZ	J	Wire Holder	AA
32	LHLDW1028GEZZ	J	Wire Holder	AB
33	LHLDW1033CE00	J	Wire Holder	AA
34	LHLDW1046CEZZ	J	Wire Holder	AA
35	LHLDW1060CEZZ	J	Wire Holder	AB
36	LX-BZ3086CEFD	J	Screw	AA
37	LX-BZ3214CEFF	J	Screw	AB
39	LX-BZ3220CEFD	J	Screw	AA
40	LX-BZ3218CEFD	J	Screw	AA
41	LX-HZ3013CEFF	J	Screw	AA
42	LX-HZ3038CEFF	J	Screw	AB
43	LX-NZ3108CEFN	J	Hexagon Nut	AA
44	LX-TZ3060CESC	J	Screw	AB
45	LX-WZ3102CEFN	J	Washer	AA
46	MSPRC0114CEFW	J	Lamp Spring	AA
47	NFANR0025CE00	J	AC Fan	BB
48	PFiLD0005CEZZ	J	Air Filter	AM
49	PFiLD0007CEZZ	J	Filter-2	AF
50	PRDAR1384CEFW	J	Lamp Heat Sink	AC
51	PSPAF0010CEFD	J	Spacer (Lamp)	AB
52	QPLGN0284CEZZ	J	Plug, 2pin (Lamp)	AV
53	RDENC0049CEZZ	–	Powe Unit	—
54	RH-HZ0017CEZZ	J	Thermistor (TH3001)	AN
⚠55	RLMPF0009CEZZ	J	Lamp	CE
56	RDENC0050CEZZ	–	Ballast Unit	—
57	RUNTK0355CEZZ	J	Back-up Relay Unit	BD
58	XBPSD40P08JS0	J	Screw	AA
59	XBPSD40P08J00	J	Screw	AA
60	XBTSF40P06000	J	Screw	AA
61	XBBSD30P08000	J	Screw	AA
62	XHPSD30P08WS0	J	Screw	AA
63	—— *Not Used* ——			
64	XTASD40P16000	J	Screw	AA
65	XHBSN30P08000	J	Screw	AA
66	LANGQ4044CEFW	J	Switch Bracket	AH
⚠67	RBiM-0001CEZZ	J	Bimetal	AN
68	XEPSD30P10000	J	Screw	AA

Ref. No.	Part No.	★	Description	Code
69	DUNTK6901DE56	–	Main PWB Unit	—
70	DUNTK6902DE05	–	Sub PWB Unit	—
71	DUNTK6903DE05	–	Digital PWB Unit	—
73	DUNTK6904DE05	–	LED PWB Unit	—
74	DUNTK6986DE05	–	Light up PWB (1) Unit	—
75	DUNTK6987DE05	–	Light up PWB (2) Unit	—
76	DUNTK6905DE05	–	R/C Receiver Unit	—
77	TLABZ0488CEZZ	J	Caution Label, High Temperature	AC
78	HiNDP3932CEZZ	J	Indication Plate, Inlamp (English)	AC
79	HiNDP3933CEZZ	J	Indication Plate, Inlamp (France)	AC
80	—— *Not Used* ——			
81	—— *Not Used* ——			
82	PZETV0553CEZZ	J	Insulating Sheet	AB
83	PZETV0554CEZZ	J	Insulating Sheet	AD
84	LANGR5068CEFW	J	Transformer Bracket	AF
85	XBPSD30P08JS0	J	Screw	AA
86	PSPAV0101CE00	J	Sheet	AB
87	RTRNP0508CEZZ	J	Transformer	AW

— End of CABINET AND MECHANICAL PARTS —

SUPPLIED ACCESSORIES

ACCESSORIES

11-3	PCAPH1019CESA	J	Lens Cap (installed)	AG
48	PFiLD0005CEZZ	J	Air Filter (one already installed)	AM
	QPLGZ0111CEZZ	J	BNC Connector (2 pcs)	AX
	RRMCG0843CESA	J	Remote Control Unit	BQ

ACCESSORIES *(NOT REPLACEMENT ITEM)*

SSAKA0170CEZZ	–	Polystyrene Cover	—
TCAUH1133CEZZ	–	Air Filter Label	—
TiNS-4958CEZZ	–	Operation Manual	—
UBATU0019CEZZ	–	Dry Batteries, Type AA (3 pcs)	—

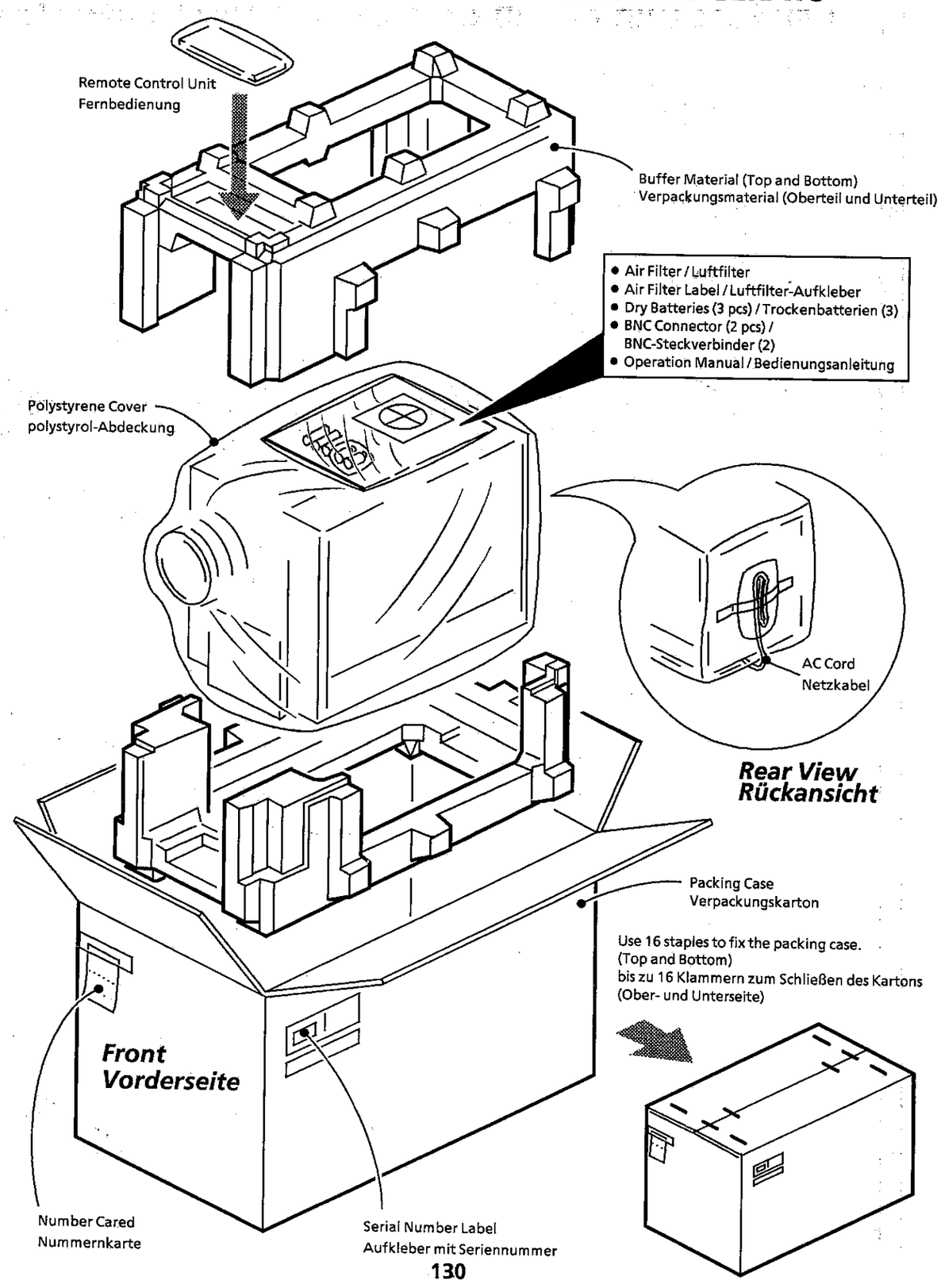
—— End of SUPPLIED ACCESSORIES ——

PACKING PARTS *(NOT REPLACEMENT ITEM)*

SPAKC4463CEZZ	–	Packing Case	—
SPAKP0603CEZZ	–	Polystyrene mat	—
SPAKX2250CEZZ	–	Buffer Material (Top and Bottom)	—
SSAKH0133CEZZ	–	Polystyrene Sack, for AC Cord	—
TLABK0001TAZZ	–	Number Card	—

—— End of PACKING PARTS ——

PACKING OF THE SET / VERPACKEN DES GERÄTS



Memo

XG-3200S

SHARP

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